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SOUND & VISION

TESTED P13

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LASER CINEMA: Hisense Ultra-Short-Throw Projector

OCTOBER
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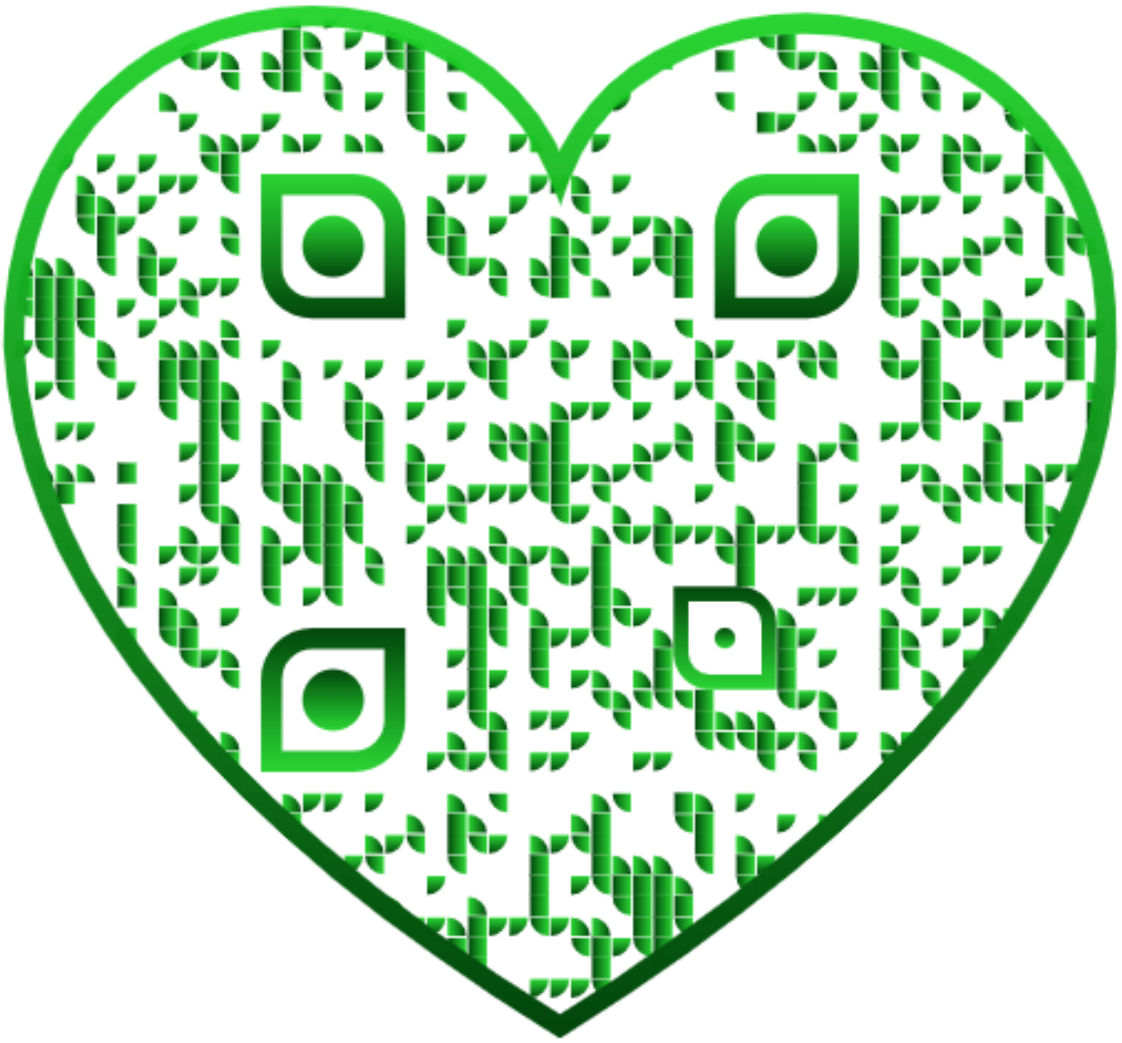
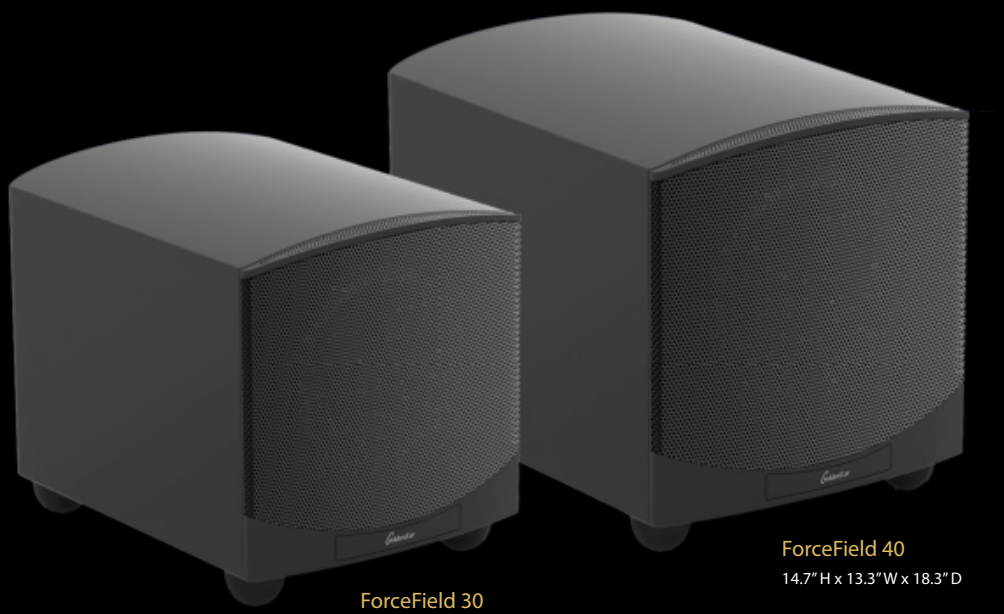


ForceField!

Clean Awesome Power to Touch Your Soul



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Star Trek: The Motion Picture finally gets its due with a newly perfected 4K Director's Edition that for the first time realizes the true vision of director Robert Wise. Chris Chiarella goes behind the scenes with the team that made it happen.

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And the winner is… More than two dozen top home theater audio and video products selected by the Expert Imaging and Sound Association, an organization representing 60 of the most respected special interest publications and websites from 29 countries.

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Audio Advice

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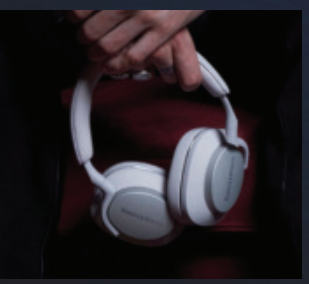
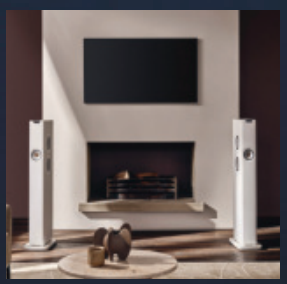


PRICE GUARANTEE



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Great Gear

THAT'S WHAT it's all about, isn't it? Whether you're a music aficionado, movie enthusiast, or both, finding gear that enriches your home entertainment experience is always a treat—especially when it pushes the boundaries of performance. Like a compact wireless speaker system with onboard streaming that sounds impossibly big for its size (page 60) or a feature-packed A/V receiver that delivers near flagship performance and versatility at a price well below flagship territory (page 36). Or a wall-hugging ultra-short-throw "laser TV" projector that makes it possible to achieve a theater-like movie experience at home without the hassle of hanging a projector from the ceiling (page 50).

For 23 years and counting, the editors of *Sound & Vision* have been cherry-picking products for review and we like to think we've gotten pretty good at it. Sometimes, we even hit the jackpot when a piece of gear attains a level of performance that goes well beyond what we were expecting. Which brings us to Dione, a remarkable new soundbar from the French company Devialet. We were so impressed with its high-tech design that requesting a sample for review was a no-brainer. What we didn't expect was the mind-blowing, top-to-bottom audiophile character of its sound. Veteran reviewer (and former *S&V* editor-in-chief) Rob Sabin was so impressed with Dione that he called it the best all-in-one soundbar he has ever heard. Based on other innovations we had seen from Devialet—namely its thoroughly unique Phantom line of speakers—we felt confident it would sound good, we just didn't know *how* good. Turn to page 56 for Rob's report.

For a global perspective on what makes a product great, I direct your attention to the EISA 2022-2023 Products of the Year presentation (page 26), which features more than two dozen top home theater audio and video products selected by the Expert Imaging and Sound Association, which represents 60 of the most respected special interest publications and websites from 29 countries—including *Sound & Vision*. As you peruse the winners, you'll notice several *S&V* Top Picks, including Epson's LS12000 4K projector, the Trinnov Amplitude16 amplifier, Primare's A35.8 amplifier, and, not surprisingly, the Devialet Dione soundbar.

Finally, Mike Mettler's Remaster Class is in session with David's Bowie's game-changing 1972 album *The Rise and Fall of Ziggy Stardust and The Spiders From Mars*. Also, don't miss "Re-energizing a Sci-Fi Classic"—the story behind how 1979's *Star Trek: The Motion Picture* was meticulously restored for the new Director's Edition released on Ultra HD Blu-ray in September. The movie has never looked or sounded better with its new Dolby Atmos sound mix and high dynamic range (HDR) transfer. As producer David C. Fein put it, "The goal was to use the latest tools to bring the film to the best standards of today. It's exhilarating and powerful. In a proper home theater, it helps to transport you into the experience." **—BOB ANKOSKO**

WELCOME

I'm pleased to announce that Mark Henninger is taking over as editor of this fine magazine. A lifelong A/V enthusiast who has been "lucky enough to turn my A/V obsession into a career," Mark is a THX-trained video calibrator with extensive hands-on experience evaluating consumer TVs and projectors. Most recently, he led editorial coverage at AVS Forum—where he instituted a product review program covering TVs, projectors, AV receivers, and speaker systems—and HomeTheaterReview, where he launched Home Theater of the Month. Mark has also worked with Projector Central as a contributing editor focusing on 4K ultra-short throw (UST) projectors and, as a professional videographer, he has deep experience working with high-resolution audio and HDR/wide color gamut ultra-high resolution imagery. Please join me in welcoming Mark to the *Sound & Vision* family.**—BA**

4 | 6 | 8 Zone Amplifier

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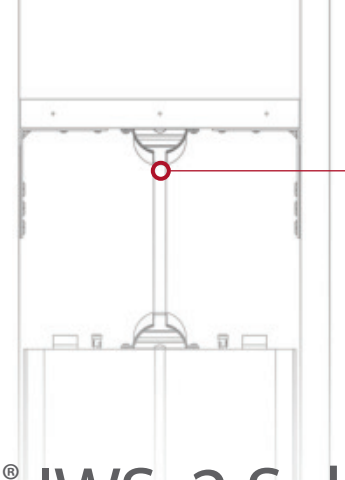

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Amplifier includes JL Audio's DARO Digital Automatic Room Optimization

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letters

Searching for Settings

I've been looking for a site where I can get the optimum settings for my Panasonic 4K OLED TV and wondered if you have an archive of optimum settings to call on? If not, do you know where I can look?

Dave Tadley / Cornwall, England

Tom Norton replies: We publish settings for most of our TV reviews on SoundandVision.com but it's important to keep in mind that those settings apply only to the sample we test and, in particular, to color settings such as white balance and color management. While other samples of a particular model may be similar to the unit we test, we have no way to confirm that. Your best approach (though not an inexpensive one) would be to contact the Imaging Science Foundation (ISF) at imagingscience.com for the name of a calibrator in your area. A less expensive route, though it will only pertain to settings such as Brightness, Contrast, and Gamma, is to get a test disc such as the Spears & Munsil UHD HDR Benchmark on Ultra HD Blu-ray ($44.95 on Amazon) and become familiar with it.

ATI Follow-up

I love your reviews. I believe *Sound & Vision* and Audioholics are the only true sources for excellent unbiased reviews and information. I was impressed with the review of the ATI AT527NC and AT524NC amplifiers David Vaughn did a while back and I was wondering if he still has them, and, if so, if he is still happy with them. Keep up the great work!

Keith Luken / via email

David Vaughn replies: Keith, one of the great things about the Internet is you can easily find and read a review of something written over five years ago! As for the ATIs, yes, those two models are still in my reference system and, despite having numerous other manufacturer's amps in for review, the upgrade itch hasn't bitten me once. In the time I've owned the ATI's, I've paired them with a number of pre/pros, including the Marantz AV8802 and AV8805, an Anthem AVM-60, and the Trinnov Altitude16 surround processor I reviewed in August/September 2021. With each respective pre/pro, the amps have stayed steady and continued to power my system to reference levels without reaching temperatures over 100 degrees, which is one of the reasons why I ended up buying the ATI review samples. My previous Parasound A51 ran way too hot and turned my theater into a sauna.

Adapting Atmos

I saved a page from your August/September 2021 issue (Q&A, page 24). In "Adapting for Atmos," Al Griffin talks about how Atmos-enabled speaker modules can be added to a system's main left and right speakers to deliver the front overhead effects in Dolby Atmos soundtracks. I added two Klipsch RP-500SA Dolby Atmos angled speaker modules to my Paradigm Studio 60 towers and went to Dolby's website to get additional information but couldn't find any Atmos configurations that showed up-angled speakers. Besides the normal front speakers, all the Atmos speaker action was in the rear of 5.1 and 7.1 setups. Can you comment on this change?

John Neiman / Las Vegas, NV

As far as we know, Dolby has not changed its guidelines for Atmos speaker placement. Everything Al Griffin wrote remains viable, especially as it relates to Dolby Atmos-enabled speakers, which are designed to bounce height-channel sound off the ceiling (as opposed to it firing down from speakers mounted in the ceiling). The documentation you are looking for does indeed exist on dolby.com but you won't find it by simply clicking on Dolby Atmos in the main drop-down menu. Instead, go to the search bar and either type in "Dolby Atmos speaker setup" or click on the "Dolby Atmos quick search" box below the bar. Both will take you to a list of options. Click on "Dolby Atmos speaker setup," scroll down to "Speaker setup guides," and click on the Learn More button. Then scroll down until you get to "Popular speaker setups" where you will find 37 (!) different surround-sound speaker configurations, including eight Atmos-enabled configurations—which is what you are looking for. Each section has a small room diagram showing the speaker placement and a Learn More button, which takes you to a page with larger, more detailed diagrams and a link to a PDF. For a really deep dive, check out the 60-page PDF Dolby put out a few years ago called "Dolby Atmos Home Theater Installation Guidelines." Just Google it.

One other point: You say you are using a Klipsch Atmos-enabled module with your Paradigm towers. Ideally, we recommend staying within the same speaker family when using separate Atmos-enabled speaker modules because they are usually designed to attach seamlessly to floorstanding models in the same family, and in some cases, the up-firing Atmos drivers are built into the top of the speaker.

wide angle quick take

BY LESLIE SHAPIRO

Sonos Ray Soundbar

A Ray of Aural Sunshine

Sonos always seems to be one step ahead of the competition, coming out with new products before people even realize they need them. That playbook hasn't changed with Sonos Ray, a new budget-friendly soundbar small enough to fit on a shelf or under almost any TV. While it's a simple design that lacks a ton of features and input options, its sound quality and price ($279) more than make up for those omissions. The Ray is offered in black or white and has three touch controls on top for volume, starting or pausing playback, and skipping tracks. Its speakers face forward to "minimize interference from nearby surfaces," and two front-firing ports bolster the low end, while high-frequency waveguides enhance stereo imaging.

Setup

Getting the Ray up and running was a breeze. The back panel has a receptacle for its power cord, an Ethernet port, and an optical digital input. That's it. There's no USB, and more noticeably, no HDMI, which rules out support for 7.1, Dolby Atmos, Dolby Digital Plus, and other formats. The soundbar does, however, support stereo PCM, Dolby Digital 5.1, and DTS Digital Surround. No question, the lack of an HDMI port limits your connection options, so make sure your TV has an optical input. Sonos doesn't provide a remote control but the Ray can be controlled via the Sonos app and has an infrared (IR) receiver so you can use your TV remote to adjust volume.

The app recognized the soundbar as soon as it was powered up and began its automatic setup routine. Alas, my brand new Samsung S22 Plus (or any Android phone) is not compatible with the Trueplay tuning feature, which adjusts the sound to compensate for room acoustics. Sonos' solution? Borrow an iPhone from a friend. They assume I have friends... The soundbar supports Apple AirPlay 2 (iOS 11.4 and higher) but all other controls and features—including Speech Enhancement and Night Sound mode—can be accessed through the app regardless of your phone's operating system.

The Ray lacks onboard voice control and doesn't support Bluetooth, but streams over Wi-Fi from the Sonos app and can be paired with other Sonos speakers. The app provides access to Tidal, Spotify, Amazon Music, and more.

Performance

With setup complete, I loaded my Spotify playlist. Up first: Maggie Rogers' "New Song." I was immediately impressed with the clarity of the acoustic guitar and vocals, especially on a system in this price range. There was none of the harshness or brash high-end that plagues budget speakers and the guitar sounded natural and transparent. Stereo imaging was limited—it wasn't extremely wide or expansive, but the sound extended a bit beyond the physical speaker, and when the drums and bass kicked in, the system held up nicely. Though I would have appreciated more bass impact, what was there was clean and free of distortion.

Switching over to movies, I streamed *Needle in a Timestack*, a sci-fi film set in a future where time travel is possible. Again, I was impressed with the clarity of the dialogue, even in scenes dominated by Mark Isham's music score. When I turned on Speech Enhancement, the difference was subtle but noticeable—voices were lifted up in the mix without sounding overly bright, sibilant, or artificially enhanced.

In a scene where the "time-shift wave" sweeps over a conference room, the swirling sound created a sense of movement and space that extended beyond the edges of the soundbar. When a second wave hit, the effect was even more immersive thanks to the waveguides and slightly flared shape of the cabinet—it was as if the sound was coming from a much larger enclosure.

Night Mode is a great feature for late-night viewing. It compresses dynamic range, lowers the volume of effects, and rolls off the bass—all without interfering with dialogue intelligibility.

Conclusion

You can buy a more expensive soundbar and get more features, than the Sonos Ray offers. However, for the price, it has a lot going for it. I've reviewed many soundbars, and the Ray is one of the best for vocal clarity. It's also a wonderful fit for secondary spaces such as a guest room or office. If these things are more important to you than surround processing and deep bass, the Ray is most certainly the soundbar for you.

AT A GLANCE

\+
Fantastic vocal clarity
Small footprint
Forward-firing design for easy placement

–
Trueplay tuning app only for iOS
Basic surround processing
Limited connectivity

RATING

PERFORMANCE ★★★★½
FEATURES ★★★½★
ERGONOMICS ★★★★½
VALUE ★★★★★

SPECS

Drivers: Tweeter (2), midwoofer (2) in ported enclosure

Amplifier: Class-D (4, power not specified)

Features: Trueplay automated room acoustics compensation (via iOS only); touch controls, adjustable EQ plus Speech Enhancement and Night Sound modes via the Sonos app

Connections: Optical digital input (cable included), Ethernet

Wireless: Wi-Fi, Apple AirPlay 2

Accessories: Wall-mount bracket optional ($39)

Dimensions: (WxHxD inches) 22 x 2.8 x 3.7

Weight: (pounds) 4.3

Price: $279

THE VERDICT

The Ray is an affordable entry into the Sonos ecosystem—one that excels in meeting the most basic requirement for any soundbar: dialogue clarity.

sonos.com

wide angle signals

Duck and Cover!

BY KEN C. POHLMANN

If you are of a certain age, you might recall the phrase "duck and cover!" You might also recall your fifth-grade teacher, Miss Boswick, stopwatch in hand, urging you to immediately take shelter under your desk. And there you were, clutching your #2 Ticonderoga, wondering, WTF? If certain potentially atomic events in Eastern Europe have recently rekindled that unfortunate childhood memory, allow me to rekindle two more.

Take a moment to recall your Dad's all-time favorite car. That's right—his epic 1958 Buick Roadmaster. You might remember how he lovingly washed and waxed that car every Saturday afternoon, its AM radio religiously tuned to Milwaukee Braves baseball. I will forgive you if you can't exactly remember that radio's dial. But there were some interesting icons on there—two little triangles. Those, my friend, are signposts in the historical timeline that delineates The Cold War.

Ah, the 1950s. The United States and the Union of Soviet Socialist Republics (USSR) were staring down one another, seeing who would blink first. During that period, it was essential for citizens to have, or at least believe they had, a chance at surviving a nuclear war. For example, kids were supposed to hide under their school desks. Personally, I never took much stock in that technique. Although the town where I lived was small and seemingly inconsequential in the struggle for world domination, it also had a factory that made a component that was vital for the construction of Polaris missiles. I was pretty sure that we were on the Kremlin's target list, and that my desk, even though it was oak, wouldn't do diddly. Ah, what fond memories.

Which brings us to those triangles on the AM radio dial. Those were CONELRAD (CONtrol of ELectronic RADiation) markings, located at 640 and 1240 kHz. The plan was this: Before Rusky warheads started to rain down, all U.S. radio broadcasts would be suspended, the idea being that the enemy might use those broadcasts as homing signals to major cities and other targets. However, although the rest of the dial was silent, alarmed citizens could tune into the CONELRAD frequencies to hear emergency broadcasts,

beamed out at a power level high enough to be received, but presumably low enough to prevent homing. To further stymie homing, the locations of the CONELRAD transmissions were repeatedly changed. The Cold War encouraged people to be clever.

The plan was conceived in 1951, and starting in 1953, all new AM radios were required to have the emergency markings on the dial. The mandate was halted in 1963. Thus, as I noted, the radio in your Dad's Buick, bearing those markings, is an authentic Cold War relic of a time that came and went. But, of course, paranoia never sleeps. CONELRAD was replaced by the Emergency Broadcast System (EBS), which in turn was superseded by the Emergency Alert System (EAS).

Now, Armageddon is serious business, so mutually assured destruction should only be practiced by trusted authority figures. Those figures also have the power to make various things legal, or illegal. For example, if you are a broadcaster, it is illegal to indiscriminately play a particular sound. Yes, you heard that right. Broadcasters can't fool around with a certain sound—a sound associated with nuclear war. In particular, we are talking about a two-tone sinewave signal comprising 853 and 960 Hz.

As you might have guessed, we are talking about the Attention Signal: that disharmonious sound that was designed to clear your mind and focus your attention to the matter at hand—namely, surviving nuclear annihilation. If you're still not sure what sound I am referring to, this will jog your memory: "This is a test. This station is conducting a test of the Emergency Broadcast System. This is only a test." <Attention Signal> "If this had been an actual emergency, you would have been instructed where to tune in your area for news and official information." Much like the Beefaroni commercial, the Attention Signal is a sound that once heard, you just can't unremember it. Which, of course, is the point.

Although the EBS was often used for civil emergency and severe weather messaging, thankfully, it was never used for a nuclear emergency. However, once in 1971 it was accidentally activated, instructing stations nationally to cease regular programming—but that's a story for another day. In any case, as you can imagine, the government doesn't want the Attention Signal to be used lightly. Rather, it wants that sound to be forever, singularly, serious. That is why it is illegal to broadcast that sound unless it's an actual emergency. I'm not kidding. Don't do it.

In conclusion, this magazine is conducting a test. This is only a test. If this had been an actual Signals column, you would have been instructed to duck and cover under your desk, and tune to the little triangles on your AM radio dial.

Very good, children! Three seconds flat!

Thank you, Miss Boswick. You taught us well.

THE AUTHOR

Ken C. Pohlmann is an electrical engineer specializing in audio topics as a consultant and writer. He is Professor Emeritus at the University of Miami.

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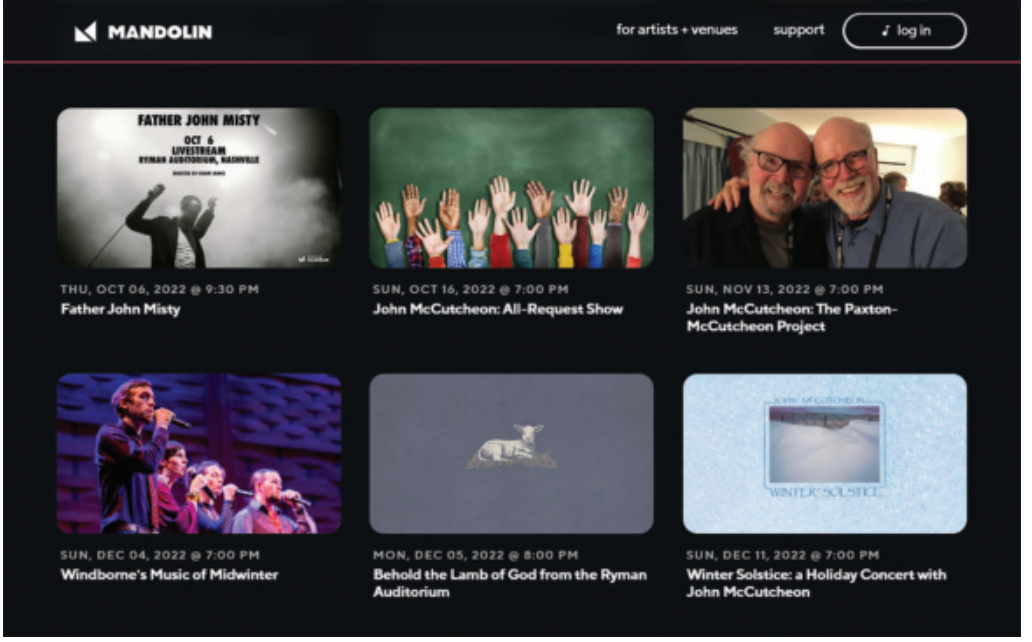

wide angle

stream on

Mandolin Reign

The burgeoning fan-oriented livestreaming platform Mandolin is making all the right moves when it comes to offering high-quality, live-music options for home consumption.

BY MIKE METTLER

I gotta say, the pandemic era sure put one helluva crimp in my concert-attending agenda. Though live shows are essentially back to what they were prior to the lockdown period, I'm less and less inclined to bother with any of the to-and-from travel hassles and overall there-and-back time commitments, not to mention the general aggravation accrued by the ever-escalating cost factors (gas, parking, and other nuisance fees). To be sure, I'm still getting out to see shows whenever I'm so inclined—hello, Porcupine Tree in Toronto!—but I'm even more selective than I used to be.

Good thing many artists have taken matters into their own hands by offering livestreamed concert performances on a more consistent basis, whether they're doing them from their own living rooms and home studios and/or onstage via invite-only scenarios or fully ticketed venues. Some performance spaces have also taken it upon themselves to regularly offer access to their in-house feeds and mixes for reasonable viewing and listening fees. Notwithstanding certain artists accustomed to playing stadiums, arenas, package tours, high-priced residencies, and/or destination-based events, you have a darn good chance of being able to see a wide variety of musicians who appeal to your particular musical preferences—and you can do it directly through your own playback system.

All of which brings us to Mandolin, a streaming platform that debuted in the summer of 2020 to help fill a then very specific live-music void. Mandolin bills itself as "the future of fandom," and the company is certainly on the right track to fulfilling that promise. As of this writing in late August, Mandolin has hosted over 1,000 artists and livestreamed over 2,000 events. Tiered, fee-based features like Fan Navigator give artists the ability to engage more directly with their audiences, while fans can pay extra for VIP Experience options such as private, virtual Meet & Greets.

You can buy affordable individual tickets directly on Mandolin, just as I did for livestreamed gigs from Loudon Wainwright III ($12), Marshall Crenshaw ($15), The Lumineers Live from Wrigley Field ($20), Bettye LaVette & Band ($15), Robert Earl Keen ($20), and Father John Misty ($10). These are all very sensible prices—and not one person was *ever* blocking my sightlines either! Replay options typically occur within 48-hour windows, many of them unlimited within that timespan.

I mirrorcasted each Mandolin gig I "attended" on my home theater system by way of my usual HP laptop-through-Roku Ultra conduit. On the occasions I deployed Replay, I did so either on my laptop or with the Mandolin app on my iPhone. If you so desire, you can partake in the live Chat and Watch Party windows before, during, and after gigs in an upward-scrolling frame on the right side of your screen. True, it can be fun to connect and chat with friends both old and new before and after shows in real time, especially given how many attendees are spread across the globe. Once a show starts, however, I prefer to give the artist at hand my full attention—and that's when I usually click back into full-frame mode.

In addition to the livestreams noted earlier, I was especially enamored with two other Mandolin offerings in particular—namely, separate gigs by Robyn Hitchcock and Nick Waterhouse, respectively. A recent entry in Hitchcock's ongoing "Live From His Home" livestream series was an outright *steal* at $7—though, of course, there are "Leave a Tip" options available during most shows if you want to contribute more dosh to an artist's coffers. For 90-plus minutes of this British alt-rock stalwart's late-August livestreamed event, Robyn's penchant for off-kilter, lightning-quick improvised humor shone through brightly. So did the vocal-blending on a few tracks with his life partner, Australian vocalist Emma Swift, such as on the stripped-down harmonic recasts of Robyn Hitchcock And The Egyptians' full-band tracks like 1991's "Oceanside" and 1988's "Chinese Bones." Purely solo Hitchcock takes ("Serpent at the Gates of Wisdom," "Another Bubble") also held much sway. All throughout the show, Hitchcock's acoustic-guitar fingerpicking was consistently clear and resonant.

Though I missed the livestream of Nick Waterhouse's show at City Winery in New York City this past March, the kind folks at Mandolin granted me a Private Replay of that evening. And what an evening it was—for 64 minutes, Waterhouse, introduced as "The Son of the Pacific Himself," and his white-hot six-person band melded '60s soul/rock sensibilities (the set-opening horn-and-organ-driven cover of The Seeds' "Pushin' Too Hard") with jazz/blues-inspired originals ("Very Blue," "Raina," Stanyan Street"). The board-quality mix conveyed all the fine details of arrangements via the piano, tenor and baritone sax, and female vocal accompaniment—not to mention Waterhouse's understated but keenly supportive chord-based guitar fills. I also appreciated the multiple camera-angle choices.

Based on what I've seen and heard so far, I suspect I'll be frequenting Mandolin on quite a regular basis, as it's quickly become one of my favorite go-to online live venues. In short, it's a masterful Mandolin *win* all around, for fans and artists alike.

THE AUTHOR

Mike Mettler, a.k.a. The SoundBard, is the music editor of *Sound & Vision*.

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wide angle

The Connected Life

Working With a Custom Installer

PART 1

BY JOHN SCIACCA

As the old saying goes, "The more things change, the more they stay the same." Throughout my years as a custom installer, I routinely encounter some of the same client-related issues. A lot of it boils down to people being new to working with an installation company and not understanding our process or what we'll be doing, but other things crop up even with people we've worked with for *years*.

If you're looking to hire an installer for a job—or really have *any* trade come and work in your home—here are some suggestions for making the project go smoother for everyone, starting with things you should do and be aware of leading up to installation day.

Time is Money Installation is often billed by the hour, so if you have several installers standing around waiting for an answer or trying to find something, you are wasting money. Whatever you can do to proactively expedite the process to make it faster/easier for them will also make it less expensive for you.

Don't Disappear Everything goes smoother when the client is home when the crew arrives. Inevitably there will be questions about the project when the crew is on site, and you will probably want to be shown how everything works when they are done. Being there and *available* to answer questions—not locked away on a phone call—is always a plus. While this might seem obvious, it is probably one of our biggest issues.

Send Pictures If a site visit isn't possible, sending pictures is often the next best thing. Doing so will give the crew a good idea of what to expect and avoid surprises by making sure they arrive with the parts and tools they need to complete the job. Pictures can also prompt important questions like, "Is there power nearby?" or "Is that cabinet big enough?" or "Are they going to want to connect that device?"

Understand the Scope
Make sure you have a clear understanding of the scope of work that is being performed. Something "simple" like a TV installation can be complicated by expectations such as "I need it wired to my surround system" or "I want to be able to pull this TV out 30 inches from the wall." Also, sentences that begin with "I thought..." or "I assumed..." most likely mean something needs to be clarified, and if you have special requests or important "will I be able to do this?" questions, address these things up front.

BYO Gear If you are providing any gear—especially if it has been used previously—confirm that it works before the techs arrive, especially if it's a component that has been packed, moved, stored, and shipped. Over the years, we've encountered broken TVs, devices that won't power up, components missing crucial cabling or parts, or just the wrong piece of gear. Also, make sure your BYO gear is unpacked and readily available. I can't tell you how many times we've been told a crucial component is packed away in a box somewhere, on a moving truck, or sitting at another location, meaning someone has to go and get it.

Address the Hot Buttons
If there are any hot-button issues between you and your significant other—such as where something is going, the size and look of speakers, the mounting height or location of a TV, etc.—get these things sorted out before we arrive. It is *super* awkward to have a couple actively bickering about particulars of the installation while we are in the house, so please don't put us in the middle of your argument. While you want us to do our job quickly and efficiently, you don't want us to feel like, "We need to get the heck out of here!" and rush to finish the job. Nothing good can come of that.

Clear the Space While techs are generally okay with having to move a few things out of the way to get to where they need to work, we're not furniture movers. If there is anything extremely heavy or delicate, like a China cabinet or a treasured painting, having it moved out of the way prior to our arrival will be appreciated. Also, while we understand that moving can be chaotic, if a room we're working in is cluttered with boxes and stuff, it's going to slow down the process. Again, you know the old saying: time is money!

Cancellations We get it; things happen and sometimes a cancellation is unavoidable. We've received day-of "someone died and I had to leave town" calls more than once and that is certainly not something anyone can plan for. But if you have to cancel, do so as *early* as possible. Most companies have a tight schedule, so having a crew load up a van with equipment and drive to your house only to find that you aren't ready—or there—really wrecks everyone's day.

Next time, I'll discuss what to expect on the day of the install.

THE AUTHOR

For the past 20 years, John Sciacca has worked as a custom installer in South Carolina. In his free time, he enjoys drinking craft beer and watching movies on his 7.2.6 surround system.

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wide angle Q&A

Random Questions

BY JOHN SCIACCA

Q I have a Sonos system for playing music throughout the house. I've recorded my 700-CD collection and like to listen to the songs randomly but Sonos does not access the whole collection—only about 4,000 of the 6,000 available songs. I've spoken with the company many times and they maintain it's not their problem. I've deleted and reset the folder numerous times, even going to the extent of separating collaborating artists, all to no avail. I have no problem listening to that same folder in my car or my wife's car. Can you recommend a solution, or do you know of an app that can safely randomize files?

CLIVE FOX / RICHMOND, VA

A When researching this, I found that Sonos is capable of handling external song libraries up to 65,000 tracks, so obviously you are well under that. I reached out to Sonos and asked what they thought might be going on, and it appears that, while Sonos can handle a pretty massive library of tracks, there is a limit of around 4 to 5,000 tracks within a play queue, which sounds exactly what you are butting up against. According to Sonos engineers: "Streaming large playlists are a strain on Sonos. A queue of more than 5,000 tracks at a time will usually result in issues, regardless of the music service being used. Breaking the playlist down in size by genre or style could result in a better experience. That way there's multiple smaller playlists."

Incidentally, this queue size limitation is not limited to external libraries, but includes streaming services as well, meaning you couldn't make a 6,000-song queue in Spotify either. Of course, breaking it into smaller playlists defeats your goal of shuffling your entire library. One possible solution would be to use Roon music playback software to manage your library and then use Sonos as the Roon endpoint. That way, Roon would be handling the tracks and queue and Sonos would just be the playback device. Also, I find Roon to be a fantastic way to explore your music. Sonos also suggested sending a diagnostic log to their support team, which would enable them to take a look at exactly what is happening in your system at that moment. You can find that under Settings>Support>Submit Diagnostics in the app.

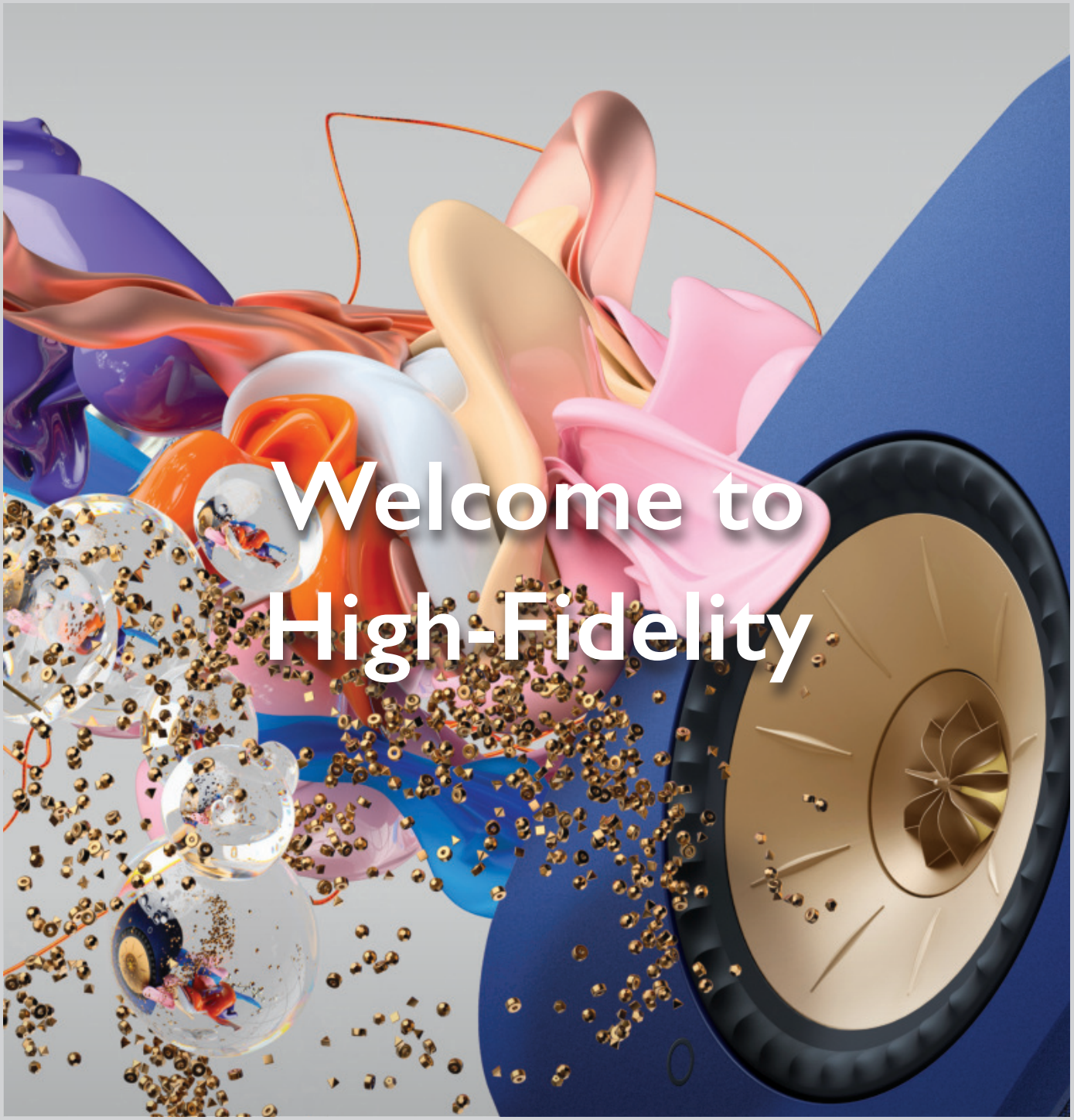
Q When I'm streaming 4K through my Roku Ultra, I occasionally get an onscreen warning that says "not 4K-compatible." The sources I use for streaming are HBO Max, Amazon Prime, and Netflix. I don't subscribe to Netflix 4K but I get the message there too. It doesn't make any sense to me. I'm using 4K-capable AudioQuest cables and my gear is an Emotiva RMC-1L A/V processor, Roku Ultra, and an 85-inch 4K Sony Bravia LCD TV that supports HDCP2.2. I also have a Panasonic DP-UB9000 Ultra HD Blu-ray player but there's no issue with it. Every check I make shows that I am set up properly for 4K streaming and my Wi-Fi signal to the Roku is great. Any ideas? It's making me crazy.

MICHAEL HENN / VIA EMAIL

A To get more insight on this, I reached out to HDMI Guru, Brent McCall, tech wizard at Metra AV. Brent stressed that HDMI failure is rarely just a single thing or product (ie: the Roku is bad), but rather a series of small issues across several devices that add up to failure. Also, the vast majority of 4K devices have two HDMI chipsets: one for non-4K (1.4) and one for 4K/HDR (2.0+), and auto switching between these—particularly 4K to 1080—can cause problems.

Start with some basic troubleshooting to see if you can narrow down the problem. First, disconnect everything and run the Roku directly to the TV. With the Sony TV, you'll also want to make sure the HDMI Signal Format for the input you're using is set to "Enhanced" format, an option that might only be available on certain inputs, like HDMI 3. Then reconnect the Roku to your Emotiva processor and try different HDMI inputs; HDMI inputs vary in circuit-path design and some are more reliable than others. You can also try different HDMI cables but make sure they are at least 3 meters (9 feet) in length. Shorter cables can pose issues with some components.

Having said all that, Brent thinks the most likely cause is related to HDMI "Hot Plug Detection." Just unplug the HDMI cable from the Roku and plug it back in to reset the hot-plug. If that solves the problem, Metra makes a device called the HDM-AIO2 ($180 at Crutchfield) that forces a hot-plug reset. It does require a relay to trigger it, and Metra offers the CS-IRKITCCUS ($80 at Crutchfield) with a built-in double-throw relay that will do the trick.



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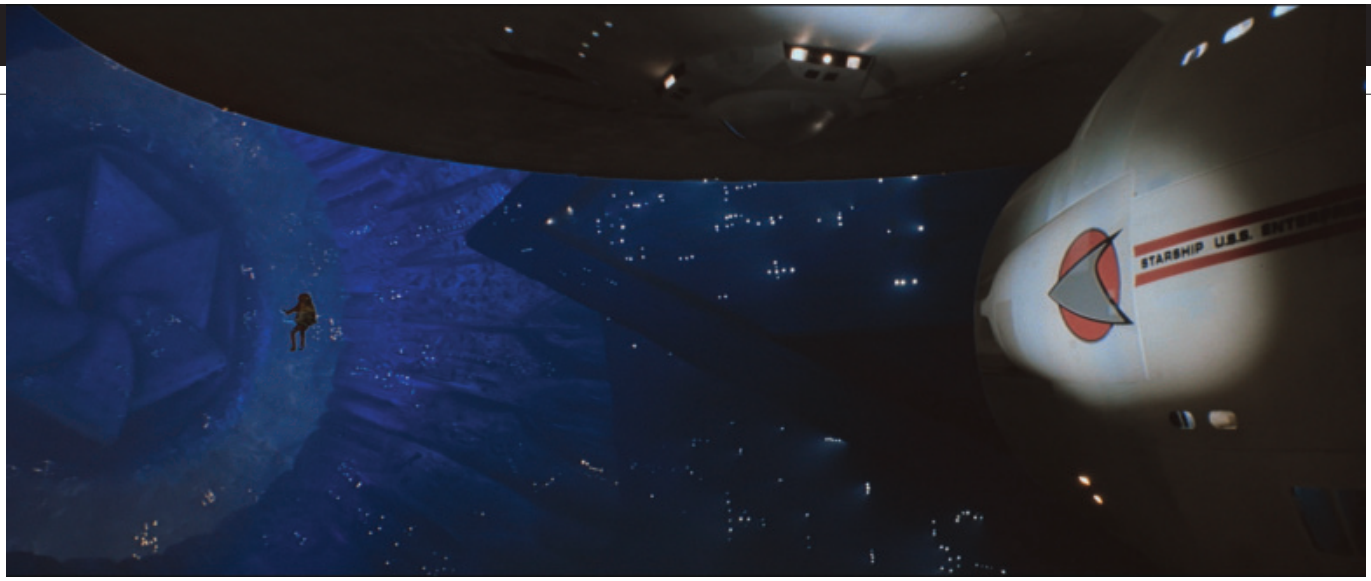

RE-ENERGIZING A SCI-FI CLASSIC

Star Trek: The Motion Picture finally gets its due with a newly perfected 4K Director's Edition. We go behind the scenes with the team that made it happen.

BY CHRIS CHIARELLA

AMBITIOUS, ORIGINAL, yet largely underappreciated, the first *Star Trek* film stands alone. Rushed into theaters in December 1979 with unfinished special effects and a studio-mandated runtime of only 130 minutes, it was not the version director Robert Wise intended. In 2001, a talented team under the leadership of producer David C. Fein and including post-production supervisor Michael Matessino and visual effects supervisor Daren Dochterman assembled the "Director's Edition" DVD with enhanced visuals and reinstated, reorganized, and extended scenes to better represent Wise's vision. Two decades later, they have returned to complete the project at 4K resolution with high dynamic range (HDR) and a new Dolby Atmos sound mix, in addition to further honing the story through many subtle yet engaging creative choices. With the release of the new *Director's Edition* on Ultra HD Blu-ray Disc, we sat down with Fein and crew to give *S&V* readers an exclusive glimpse of what it took to boldly go where no one has gone before.

S&V: What is it about *The Motion Picture* that has inspired so much enthusiasm all these years later?
David C. Fein: *Star Trek* is always there to give great hope for the future. And plenty of fans who first saw the film in theaters in 1979, and then on ABC and home video, loved and appreciated the film's potential.
Michael Matessino: It remains the only one of the *Star Trek* films that truly feels epic, and that is entirely about a future that involves interstellar travel, what that technology would have to be like, and how humans would have to evolve in their relationship with that technology while still holding on to what it means to be human.
Daren Dochterman: The buildup for fans who had waited patiently for the film for ten years since the series ended was huge. At 12 years old, I loved it and saw it over and over because it was the first time *Star Trek* actually felt "real" to me, as if the TV show was just a rendition of what had actually happened.

S&V: And what is it about this movie that still excites you?
Fein: The joy I feel knowing it's now working better than ever for audiences. I love disappearing into a film, and I'm excited that people are truly having that experience.
Dochterman: It is still the only "motion picture" in the series. The other movies are like very well-done episodes of the TV show, but this one actually broke the bonds of the small screen and delivered a huge experience in the theater.
Matessino: The movie is more relevant today because it's all about people constantly interfacing with technology and staring at screens, yet yearning for true connection with each other. That was a crazy notion in the '60s that was still basically unusual in the '70s, but now we're all living it.

S&V: You all worked together on the now-famous 2001 DVD of *The Director's Edition*: How did that prepare you for the 4K in 2022?
Matessino: The whole project in 2001 *was* the preparation!
Fein: The DVD was a successful proof of concept, but more like yet another workprint to the finished 2022 version. The structure of the edit and the smoothing of the story were worked out during that DVD production.
Dochterman: Mr. Wise leading the way and helping us complete what became the blueprint for the final version. It was such a great thing to see him open up about this project that he had remained silent on for nearly 20 years.
Matessino: The expectation from the outset was that we *would* return to it and complete it. It took longer than any of us thought, but in the end we were even more able to achieve Robert Wise's true vision for the film. It was like

crossing a stream but having the benefit of knowing where the rocks were this time around.

S&V: What was the genesis of this project?
Fein: Our goal was always to finish the movie on film. In 2001, we got it finished for DVD, and Bob was thrilled that his Star Trek legacy would now be *The Director's Edition*, but he asked me to promise to never give up and get the film finished at the highest possible quality. Three years ago, after a number of stalled attempts, I was able to bring the project back to the studio and thanks to Paramount Home Entertainment and the financial support of Paramount+, the project was greenlit. This time the goal was a new 4K digital negative equivalent with a new theatrical sound mix.

S&V: How long did it take from start to finish?
Fein: From green light to delivery was a six-month schedule.

S&V: Wow, that's a fast turnaround for a project of this magnitude. What was the biggest challenge?
Fein: We were able to color-grade the film, to bring the images alive, essentially for the first time. Another challenge was developing a new system that enabled every frame of the original negative to be examined and make subtle and necessary adjustments: shaky frames, distracting grain, unfinished effects, missing color elements and even necessary framing tweaks.
Dochterman: Our crew was spread around the world, and all the work was being done remotely, so we couldn't always directly give notes while an artist was actively working. Revisions took time that was very precious.
Matessino: The challenge was also the greatest blessing, which was dealing with technology that has gotten very sophisticated. It meant we had great potential for both picture and sound to achieve tremendous quality, but that quality is merciless when it comes to revealing flaws.

S&V: We lost the great Robert Wise in 2005: How has the process been different in his absence?
Dochterman: Bob Wise is still the key creative force in our ears for this. We had many long discussions going over the 2001 version with him, including things

1) Michael Babcock works on the new Dolby Atmos mix for the Director's Edition of Star Trek: The Motion Picture. Presenting the film in 4K/HDR with a new sound mix helped fulfill the true vision of director Robert Wise (2), shown here on the set with cinematographer Richard Kline.

3

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that we wanted to do but couldn't due to time and money. We're happy to be able to do them now.

Matessino: He remains my mentor and role model. When we were mixing, I had a picture of Bob and (composer) Jerry Goldsmith on the screen to make sure they were with us and I'd look at them and make sure they'd be happy with what we were doing. So this experience was different on the surface, but in a way I feel like we never really stopped working on it.

Fein: When the DVD version was created, I met the amazing John Lowry of Lowry Digital. He may have been the first person to discover that film emulsion can be deeply scanned, revealing additional image that you can't see with the naked eye. I would talk to Bob about discoveries like this, and improvements in multichannel sound, and we'd speculate about the future. He told me to focus on how all of these advances would help reach the goal of telling the story through pure immersion in sound and picture using the best tools possible. So this time, Lowry's discovery can be properly reproduced, and Dolby Atmos audio was also a huge part of making *Star Trek: The Motion Picture—The Director's Edition* the best 2022 film possible.

3) Film negatives of the original VFX (visual effects) photography were retrieved from the Paramount vault and used to assemble a series of new shots for the Director's Edition of Star Trek: TMP. 4) Producer David C. Fein reviews a shot. 5) The team behind the restoration project (from left): post-production supervisor Michael Matessino, Fein, and visual effects supervisor Daren Dochterman.

S&V: What might fans not understand about the difficulty in your work creating this new edition?

Dochterman: A lot of the project files that we worked from on the 2001 version had simply gone obsolete, or in some cases, became unreadable. We actually had to create representations of much older computers in order to make things work. And Foundation Imaging, the company that did the original work, doesn't exist anymore.

Matessino: The technical challenges, and the mind-boggling amount of data. But Bob wouldn't want fans to spend their time pondering the difficulty, although it's always nice when the work is appreciated.

S&V: What aspect of this new version are you most proud of?

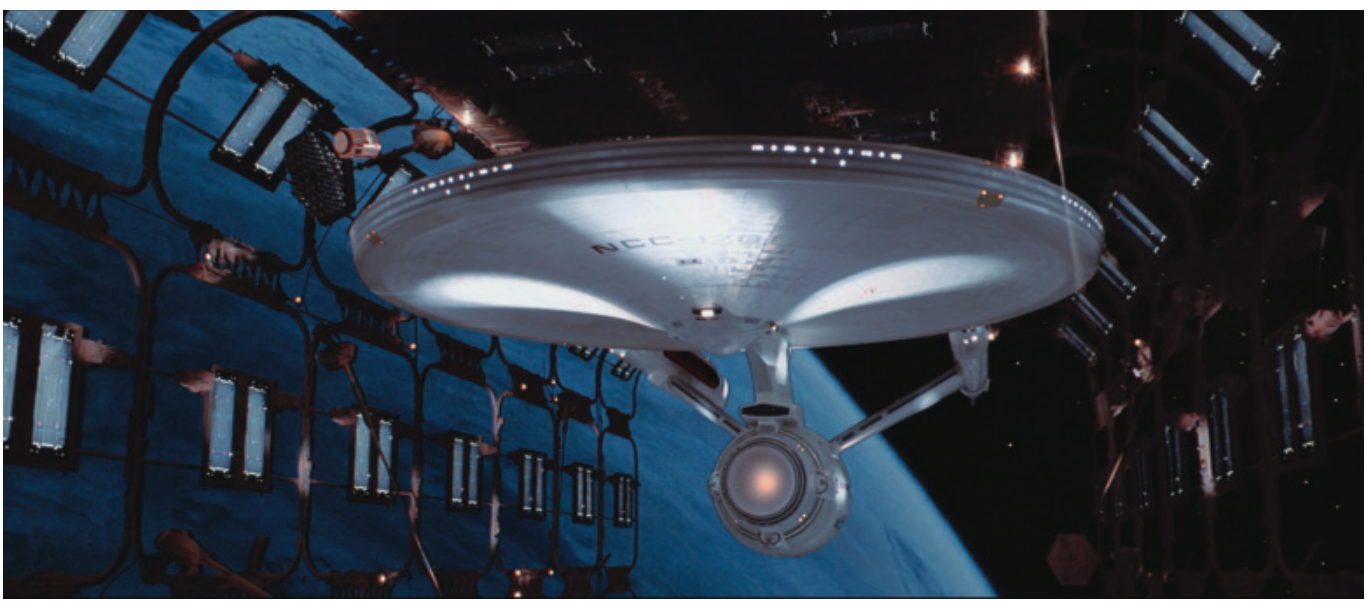
Fein: That the film works! It is resonating with audiences of all ages: I've had teens, twenty-somethings, thirty-somethings... people who have never seen the film say that they really love it and it made them think. That's really the best feeling in the world.

Dochterman: We were able to give the film a new lease on life. It has never looked better, even in its initial release. We have been able to, for the most part, go from original camera negative sources and the latest technology in scanning and image cleanup. It just looks stunning.

Matessino: I'd have to say I'm proudest of being caught completely by surprise by just how great the completed movie plays, particularly on the big screen. That's absolutely what we were going for but I was stunned by just how much I was captivated by it.

S&V: Daren, what can you tell us about the new special effects?

Dochterman: We've been able to replace some of the computer-generated elements we created for the DVD with the actual elements that were shot for the film, such as Spock walking up to the elders in the Vulcan temple, which had to be done with a CG surrogate back in 2001. We now had access to the



original negative of Leonard Nimoy for the same scene. It's really wonderful to be able to make it even more genuine. Several things in the film are like this: I want people to try and see if they can tell where!

Fein: It was a mammoth endeavor and Daren did a remarkable job managing the effects and the VFX team. In addition to the hundred *Director's Edition* shots, there were approximately 85 new shots that were assembled from the original VFX photography. Paramount's archive did an incredible job locating and transferring all of the footage we needed to recomposite many of the effect shots from the first-generation negative.

Matessino: The goal with the visual effects was to realize what was planned in 1979 but abandoned because of the time crunch. But the purpose of the updated effects was to make sure the narrative was clear and focused and that the emotional impact was coming through as intended.

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6) The Vulcan temple scene in the new Director's Edition was fully restored, replacing a computer-generated surrogate created for the 2001 DVD release with original footage of Leonard Nimoy (Spock). The 2022 version of the film reenvisioned and brought 4K/HDR clarity to the "wing walk" scene shown here before (7) and after (8).

S&V: How have 4K resolution and HDR impacted the final result?

Dochterman: The new 4K scans of the original camera negative are glorious. The additional benefit of having everything in HDR is spectacular. The home theater experience actually surpasses the color and latitude of a conventional theater presentation.

Fein: Since 4K is video standard for theatrical exhibition, completing the film in 4K as we did means it could be released alongside any other 2022 film.

Matessino: The process really bears no resemblance to where we were two or three decades ago, but I do know that Bob Wise and cinematographer Dick Kline would both be embracing the full potential of 4K.

S&V: The new Atmos soundtrack is pretty special as well.

Matessino: Goldsmith's original recordist/mixer Bruce Botnick and I actually transferred the 16-track music scoring masters back in 2012, but in the intervening decade, Dolby Atmos arrived and that opened up a whole new world of possibilities. The original sound effects libraries, ADR dialogue and Foley masters, by some miracle, still existed in the archives, so we could go much farther, with incredible clarity. We also had Michael Babcock, one of the best rerecording mixers in town, do our final mix.

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Dochterman: This modern mix can stand next to the most recent big budget studio sound mixes, and it is simply amazing.

Fein: Again, the goal was to use the latest tools to bring the film to the best standards of today. It's exhilarating and powerful. In a proper home theater, it helps to transport you into the experience.

Editor's note: *Visit SoundandVision.com for our review of* Star Trek: The Motion Picture – The Director's Edition *(Paramount Home Entertainment).*

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2022-2023 **HOME THEATER VIDEO+AUDIO**

PRODUCTS OF THE YEAR

EISA, or the Expert Imaging and Sound Association, is an organization representing 60 of the most respected special interest publications and websites from 29 countries that cover Hi-Fi, Home Theater Video, Home Theater Audio, Photography, Mobile Devices, and In-Car Electronics. Every year EISA's Expert Group members, including editors from this publication, test a very wide range of new products from their field of expertise before comparing results and voting to decide the cream of every product category.

To win an EISA award all products undergo a comprehensive multi-step judging process. So, while EISA's annual Convention in Antwerp in May and Awards Meeting in June were, once again, both cancelled due to the pandemic and travel chaos, the comprehensiveness of the Association's product testing was not diminished. EISA hosted no fewer than 50 webinars that put new technologies, and brands, in front of its expert editorial audience. This, combined with regular video conferences for the Expert Groups, and the shipment of products between member countries, allowed judging to extend over many months, fueling lengthy and highly informed discussions. EISA's democratic voting process was reinforced, establishing a consensus of excellence that ultimately determined the winning products.

Home Theatre Video Awards 2022-2023

EISA
UST PROJECTOR 2022-2023

XGIMI Aura

With an eye-catching curved-top design and wallet-friendly price, XGIMI's AURA has serious kerb appeal even before you see it action. Yet it's this ultra-short-throw (UST) projector's picture performance that seals the deal, marked by a brightness output – from a laser light source – that makes it an excellent model for daytime viewing, and an enthralling experience with HDR content. Black depth and 4K image sharpness also impress, as does the detailed, punchy sound from the AURA's in-built Harman Kardon speaker system. Smart features, provided by the Android OS, include video-on-demand apps and screen mirroring, ensuring this high-performance UST projector lives up to its home entertainment promise.

EISA

PREMIUM MINI LED TV 2022-2023

TCL 65C835

TCL continues to evolve its Mini LED backlighting with multi-zone dimming technology, and the temptingly priced 65C835 puts those advancements on full display. This 4K TV builds on last year's EISA Award-winning C825, with improved wide-angle viewing and anti-reflection abilities adding to an enhanced brilliance in picture performance. Dazzling brightness and colour rendition combine with excellent black and shadow detail during precision HDR playback across HDR10, HDR10+ and Dolby Vision IQ. There's full gaming compatibility for next-generation consoles, and the user experience is enhanced by the inclusion of Google TV and an Onkyo sound system that provides impressive audio for such a slim and attractive set. TCL has created another fine winner in the 65C835.

EISA

HOME THEATRE PROJECTOR 2022-2023

Epson EH-LS12000B

With the substantial EH-LS12000B, Epson brings a notable upgrade to its '4K Pro UHD' pixel-shifting technology, and doubles down on the quality hike with a full laser array light source that delivers 2700 Lumens for both white and colour, thanks to its custom 3LCD panel technology. Added to this is 32-bit picture processing that optimises real-time colour, contrast, HDR and frame interpolation up to 120Hz, while gaming is supported with input lag times below 20 milliseconds and compatibility with 4K/120Hz sources. Overall Epson has crafted a projector that yields an effortlessly smooth and cinematic bigscreen 4K performance, and even makes installation a breeze thanks to a versatile internal lens-shift system. In a word: epic.

EISA

GAMING PROJECTOR 2022-2023

BenQ X3000i

EISA applauds the gaming abilities of BenQ's cute cube of a projector, which uses a 4LED light source to deliver a claimed 3000 ANSI Lumens of brightness from the latest pixel-shifting DLP 4K resolution chipset. Gamers will appreciate a pre-configured 'Fast Mode', with a dedicated remote key, and response times down to almost 4ms at 1080p/240Hz (and 16ms for 4K/60Hz), along with three game modes optimised for different genres. But it's not just for the button-mashers! The X3000i also delivers bright and smooth movie playback where colour is a particular strength, thanks to BenQ's exclusive CinematicColor technology delivering 100% of the DCI-P3 colour gamut. A supplied Android TV stick and built-in stereo speakers help make the X3000i a complete entertainment package.

EISA
BEST BUY OLED TV 2022-2023

Philips 55OLED807

Philips' mid-tier OLED proposition, the 55OLED807, offers a performance and specification that feels far in excess of its affordable price point. Combining the latest, higher-brightness 'EX' panel with a new generation of the brand's well-established and high-spec P5 processing engine, this smartly styled flatscreen – with scene-stealing Ambilight illumination and rotating stand – mixes black level prowess, astonishing HDR peaks, crisp 4K sharpness and authentic, vibrant colours. A comprehensive range of picture presets is joined by in-depth image adjustments, making the 55OLED807 suited to telly addicts and tweakers alike, and with connections including twin HDMI inputs offering support for 120Hz video and variable refresh rates, gamers are invited to the party too.

EISA
PREMIUM LCD TV 2022-2023

Hisense 65U8HQ

Thanks to its advanced technology, Hisense's 65U8HQ engineers an experience worthy of its flagship position. A 4K/120Hz Mini LED/Quantum Dot anti-glare panel joins forces with a 160-zone local dimming engine and light sensor to fine-tune picture performance for any environment – images showcase superb brightness, top-notch motion and a wide viewing angle. It's also impressively specified, including VRR, FreeSync Premium and ALLM gaming features, support for the HDR10+ Adaptive, Dolby Vision IQ and IMAX Enhanced formats, and Wi-Fi 6 streaming. The TV's bespoke VIDAA U6 operating system provides an intuitive layout, profile creation for every family member and speedy operation. Audio, from a 2.1.2-channel Dolby Atmos speaker array, is powerful and immersive. This is a real statement set from Hisense.

EISA
PREMIUM OLED TV 2022-2023

Sony XR-65A95K

Sony's best-ever OLED TV features all-new QD-OLED panel technology, based on blue-light diodes and a Quantum Dot layer. As a result, the XR-65A95K's peerless images offer deep blacks, intense colours and brightness beyond all expectations, perfected by Sony's multi-faceted Cognitive Processor XR. Movie and TV content looks sublime, and naturally this flagship model is ready for gamers with VRR, ALLM and 4K/120Hz playback. Cementing the XR-65A95K's status as a high-end OLED all-rounder is the innovative Acoustic Surface Audio+ sound system, which provides detailed, full-range 2.2-channel sonics that benefit from automatic calibration. Smart skills are handled by Google TV (including access to the BRAVIA CORE movie library) and the supplied Full HD resolution BRAVIA CAM that enables video chat, power saving and more.

EISA

GAMING TV 2022-2023

LG OLED42C2

When it comes to TVs suited to videogamers, LG has – for several years – led the way. Its OLED42C2 carries on that tradition, and makes use of a new, smaller 42in OLED panel that's a perfect fit for a dedicated gaming den. A state-of-the-art HDMI specification, including variable refresh rates and 4K/120Hz compatibility on all inputs, welcomes next-gen console/PC owners. Exceptional response times bring a competitive edge and the TV's Game Optimizer interface provides quick access to image settings. LG's Evo panel and AI-infused α9 Gen5 processor work together to give game visuals a dynamic, bright and smooth feel. Add in the TV's WebOS smart system, voice control skills and elegant styling, and the OLED42C2 becomes irresistible.

EISA

FAMILY TV 2022-2023

Philips 55PUS8807

Also known by its maker Philips as 'The One', this 55in LED-lit LCD TV rises to the challenge of bringing all-round movie, TV and gaming entertainment to your living room, without breaking the bank. A significant upgrade on its predecessor, the 55PUS8807 targets console gamers with a new Game Bar feature and HDMI 2.1 connections, while the comprehensive Android TV 11 smart system ushers in streaming platforms and music-on-demand. 4K HDR playback (including HDR10+ and Dolby Vision) is bolstered by the set's vibrant colour and high brightness delivery, and impresses even in well-lit rooms. Furthermore, the wide-angle viewing potential of the TV's S-IPS panel means every member of the family can enjoy the show.

EISA

HOME THEATRE TV 2022-2023

Philips 65OLED+937

Sound quality is high on any TV buyer's wish-list, and Philips puts it front and centre with the 65OLED+937. Its integrated speaker system, designed by Bowers & Wilkins, is the ideal match for a stunning picture performance from the TV's high-brightness 'EX Royal' OLED panel, and P5 AI Dual Picture engine with Advanced HDR tone mapping. This 5.1.2-channel speaker bar sounds enveloping and largescale – new side-firing drivers and redesigned Dolby Atmos units expand the soundfield, the centrally mounted titanium dome tweeter adds succinct detail and positioning to dialogue, and a 100x65mm bass driver packs a fast, deep punch. Design isn't an afterthought either, as the smartly angled enclosure dovetails with the TV's desktop stand to make the 65OLED+937 a feast for the eyes as well as the ears.

EISA
BEST BUY LCD TV 2022-2023

TCL 55C735

Adopting many of TCL's premium technologies while still retaining a seriously affordable price point, the discreetly styled 55C735 is easy to fall in love with and a brilliant option for movies, games and sports. Its combination of direct LED lighting and Quantum Dot VA-type panel creates a picture performance with superior, naturalistic colour handling and authentic contrast, while dynamic tone mapping – plus Dolby Vision and HDR10+ capability – ensures optimum quality from UHD discs and streaming services. Audio is another strong suit, with Dolby Atmos processing expanding the soundfield of the TV's Onkyo-designed speaker system. By implementing the Google TV OS, the 55C735 is top of the smart class, too.

EISA
MEDIA PLAYER 2022-2023

Zidoo NEO S

Whether you're using the NEO S as a 4K media source or music player and headphone amp, its success comes from the optimisation of each component element and attention to detail. It feels more high-end hi-fi than common media player, with its aluminium-alloy chassis fronted by an OLED screen, and socketry including digital inputs, unbalanced/balanced audio outputs and twin headphone sockets, including 4.4mm balanced. When networked, the Neo S is adept at adding files to its app-controlled library system, able to play via HDMI to a TV with compatibility for 4K HDR, including HDR10+ and Dolby Vision. Music playback goes to 768kHz/32-bit PCM and DSD512, plus Bluetooth in LDAC and aptX flavours, making the NEO S a true all-rounder for media playback.

EISA
MOBILE PROJECTOR 2022-2023

Philips GoPix 1

When you first lay eyes on Philips' elegant GoPix 1 you might not even realise it's a projector, yet within its ultra-slim and easily portable 18mm-deep chassis are DLP-based optics and an LED light source capable of creating images up to 75in. Designed to connect to smartphones, tablets and laptops, regardless of the operating system, this mobile beamer's onboard battery supports two hours of video playback, accompanied by crisp audio from an internal speaker system. Image setup is aided by a tactile focus wheel and automatic keystone correction, while a supplied tripod encourages viewing sessions in any environment. Also bundled with a remote control and mini HDMI and USB-C cables, the GoPix 1 is a superb solution for those who need a big picture on the go.

EISA
HOME THEATRE PROCESSOR 2022-2023

Anthem AVM 90

In this flagship home theatre processor, Anthem has blended state-of-the-art connectivity and in-depth calibration with an articulate, immersive and tonally balanced performance. Featuring a 19-channel output – including four independent LFE outs – available on balanced XLRs for partnering with the brand's MCA power amplifiers, the AVM 90 is ready for dedicated cinema rooms with expansive speaker arrays. It's also ready for modern sources, courtesy of HDMI 2.1 inputs/outputs supporting 4K/120Hz video and dynamic HDR. Use Anthem's ARC Genesis room correction platform to fine-tune your system and prepare to be bowled over by a performance showcasing pristine detail, accurate effects localisation and seamless bass integration.

EISA
HIGH-END SOUNDBAR 2022-2023

Devialet Dione

With its debut soundbar, Devialet delivers authentic, high-fidelity home theatre audio from a stylish enclosure that hides a slate of innovations. Chief among these are the brand's proprietary ADH amplification and speaker active matching (SAM) processing, which provide both tangible power and exemplary control over the Dione's eight independent bass units. Joining the fun are side-firing and upfiring full-range drivers for Dolby Atmos/surround playback, plus the distinctive Orb centre channel, which can be rotated to ensure an accurate performance when the soundbar has been wall-mounted. In use , the Dione astonishes with its low-end poise and slam, evocative ambience and smooth detail reproduction. To hear one is to want one.

EISA
AV RECEIVER 2022-2023

Denon AVR-X1700H

An entry-level seven-channel AV receiver with Dolby Atmos and DTS:X decoding, Denon's AVR-X1700H earns best-in-class status by virtue of its forward-thinking connectivity, foolproof usability and – of course – sound performance. This affordable receiver approaches multichannel mixes with relish, sounding energetic and dynamic, while its trio of HDMI 2.1 inputs, with support for advanced video formats from next-gen consoles, makes it a welcome addition to a gaming setup. Add in HEOS multiroom integration, Bluetooth/network streaming (including playback of hi-res files) and compatibility with voice assistants, and the AVR-X1700H becomes the very definition of value for money.

EISA
HOME THEATRE AMPLIFIER 2022-2023

Trinnov Amplitude16

As modern movie sound formats demand more loudspeakers, system builders need more amplification. Trinnov's Amplitude16 answers the call, wrapping 16 channels (rated at 200W/8ohm) in a rack-sized, all-metal chassis that's a smart cosmetic match for its multichannel Altitude16 processor. The unit's two eight-channel modules, designed in collaboration with Class D specialist ICEPower and fed by independent power supplies, deliver an astonishingly dynamic performance. In practice, the Amplitude16 blends controlled, deep bass with effortless speed and purity of tone – it's a high-end powerhouse that will get the best from any loudspeaker system, and marks a thrilling addition to the Trinnov fleet.

EISA
COMPACT SOUNDBAR 2022-2023

Polk Audio MagniFi Mini AX

The aim of a compact soundbar is to create a listening experience that's far bigger than you'd expect, a trick Polk's MagniFi Mini AX system pulls off with aplomb. From its easy-to-accommodate 30cm-wide main enclosure and discreet partnering subwoofer comes a detailed, full-range soundfield, with appreciable reach and effects positioning provided by Polk's in-house Stereo Dimensional Array (SDA) processing. Day-to-day operation and connectivity are equally appealing, this soundbar's inputs ranging from HDMI eARC to Wi-Fi and Bluetooth, and user adjustments including a mode for boosting dialogue clarity from the dedicated centre channel. When space is at a premium, the MagniFi Mini AX should be at the top of your wish-list.

EISA
HOME THEATRE SUBWOOFER 2022-2023

Perlisten D215s

A flagship subwoofer engineered to deliver a reference-grade performance in a large cinema space – and certified THX Dominus – Perlisten's D215s sounds as purposeful and powerful as it looks. Featuring two custom-made 15in bass drivers in a force-cancelling configuration, propelled by a 3000W amplifier stage, it's arguably no surprise this sub drops deep and slams hard. What's perhaps more remarkable is the control and accuracy it brings to movie soundmixes and music material, traits that prove the quality of Perlisten's cabinet design and application of advanced DSP. App-based parametric EQ and operation, comprehensive connections and a smart colour touchscreen display are further reasons to adore this premium bass-maker.

EISA

BEST BUY SOUNDBAR 2022-2023

TCL C935U

Just when you think you've reached the end of this soundbar's talents, you discover it can do more. The C935U partners its wireless subwoofer with a main enclosure featuring physical height drivers for Dolby Atmos and DTS:X, plus TCL's Ray-Danz acoustic lens technology, and is an excellent performer with movie and TV soundmixes. Bass has weight, dialogue is robust and effects have tangible impact. Connectivity is best-of-breed too, combining HDMI eARC for streamlined setups with dedicated inputs for additional hardware, and support for 4K Dolby Vision. Further skills include AirPlay, Chromecast and DTS Play-Fi streaming, app-based auto-calibration, and useful EQ adjustment and sound presets. Even the remote, with LCD display, feels innovative.

EISA

HOME THEATRE SOLUTION 2022-2023

Loewe klang system

Leading the way in Loewe's range of connected audio hardware are the klang bar5 mr and sub5, a premium Dolby Atmos and DTS:X-capable soundbar system intended to partner TVs of 55in and above. A mix of drivers provides native and upscaled 5.1.2-channel sonics out of the box, and the soundfield can be expanded with any of Loewe's klang mr multiroom/streaming speakers for a fully immersive 7.1.2 experience. Build quality and styling across the range is first-rate and the sound performance is rich, evocative and exceptionally detailed. Loewe's approach to setup also reaps rewards – Wi-Fi options include DTS Play-Fi, Apple AirPlay and Google Home, making it easy to add music to your home theatre.

EISA

INTEGRATED SOUNDBAR 2022-2023

Philips Fidelio FB1

The jewel in the crown of Philips' Fidelio range is the FB1, a feature-packed soundbar that serves up a fantastically far-reaching performance from just one box. Bass delivery stands out, the FB1's dual built-in subwoofer units showcasing the power, poise and depth usually expected of an external sub, and the separate driver arrays for the LCR channels bring excellent dialogue and effects handling. 3D audio – whether Dolby Atmos, DTS:X or virtual – comes via the soundbar's cleverly illuminated upfiring speakers. Overall, there's a fluency and articulation to the FB1's performance that's utterly captivating, and this also carries into its delivery of music, making it a soundbar for every occasion.

EISA
HOME THEATRE SOUNDBAR 2022-2023

Hisense U5120GW

Give Hisense's top-of-the-range soundbar a Dolby Atmos or DTS:X mix and right away its talents are thrillingly apparent. Courtesy of a 5.1.2 channel configuration that includes two-way arrays for left, centre and right, plus wireless subwoofer with a potent 8in driver, it easily conveys the dynamics, weight and enveloping nature of movie soundtracks – the U5120GW creates a largescale listening experience that belies its slim, easy-to-accommodate hardware. This cinematic performance can be tuned via listening modes and EQ adjustment, and is backed up by a comprehensive range of connections, including 4K HDR-capable HDMI inputs for disc players and consoles, eARC for TV hook-up, and Bluetooth for music streaming.

EISA
POWER AMPLIFIER 2022-2023

Primare A35.8

Designed for both the multichannel audio and hi-fi worlds, Primare's flagship 35 Series amplifier deploys eight bridgeable channels of potent, dynamic Hypex Ncore amplification, and then lets the user decide what to do with them. For a home cinema, the A35.8 can spread its output across a surround array, or be used to bi-amp the front LCR speakers; in a two-channel system, bridged pairs bring phenomenal power and grip, and all eight amps can be put to work on loudspeakers with a split crossover. This is a flexible, innovative and imperious-sounding amplifier, in a stylish, understated chassis typical of the brand.

EISA
LOUDSPEAKER SERIES 2022-2023

Perlisten S Series

Perlisten has raced out of the blocks with its S Series debut, a high-end range comprising five models. Key to its impeccable sound quality is the bespoke Directivity Pattern Control (DPC) array, a nest of beryllium tweeter and carbon-ply midrange domes that's precision engineered for controlled dispersion and pin-point imaging. A feature on all the speakers, from the range-topping S7t floorstander through monitor, centre channel, standmount and height/surround options, Perlisten's DPC brings exceptional levels of detail and nuance to movies and music, and is underpinned by rock-solid lows from custom bass drivers. Lush looks and outstanding build quality make this series even more of a winner.

MORE EISA AWARDS 2022-2023

EISA
EXPERT IMAGING AND SOUND ASSOCIATION
40TH ANNIVERSARY

Hi-Fi Expert Group

EISA FLOORSTANDING LOUDSPEAKERS 2022-2023	**PARADIGM FOUNDER 120H**	EISA WIRELESS FLOORSTANDING LOUDSPEAKERS 2022-2023	**KEF LS60 WIRELESS**
EISA WIRELESS ON-WALL LOUDSPEAKERS 2022-2023			**SYSTEM AUDIO LEGEND 7.2 SILVERBACK**
EISA ALL-IN-ONE LOUDSPEAKER 2022-2023	**SONUS FABER OMNIA**	EISA HIGH-END STEREO SYSTEM 2022-2023	**MOON VOICE 22 & ACE**
EISA BEST VALUE WIRELESS LOUDSPEAKERS 2022-2023			**SVS PRIME WIRELESS PRO POWERED SPEAKERS**
EISA HEADPHONE SYSTEM 2022-2023	**EARMEN CH-AMP, TRADUTTO & STACCATO**	EISA TURNTABLE 2022-2023	**THORENS TD 1500**
EISA STREAMING AMPLIFIER 2022-2023	**ROKSAN ATTESSA STREAMING AMPLIFIER**	EISA BEST VALUE TURNTABLE 2022-2023	**ARGON AUDIO TT-4**
EISA SMART AMPLIFIER 2022-2023	**MARANTZ MODEL 40N**	EISA DAC 2022-2023	**MUSICAL FIDELITY M6X DAC**
EISA BEST VALUE STEREO SYSTEM 2022-2023	**DENON PMA-900HNE & DCD-900NE**	EISA STREAMER 2022-2023	**PRIMARE NP5 PRISMA MK2**
EISA STEREO SYSTEM 2022-2023	**ROTEL RA-6000 & DT-6000**	EISA HEADPHONE AMPLIFIER 2022-2023	**FERRUM AUDIO OOR**
EISA VINYL SYSTEM 2022-2023	**PRO-JECT X2 B & PHONO BOX S3 B**	EISA HIGH-END HEADPHONES 2022-2023	**MEZE AUDIO ELITE**

Combined Award with Home Theatre Audio Expert Group

EISA POWER AMPLIFIER 2022-2023	**PRIMARE A35.8**	EISA LOUDSPEAKER SERIES 2022-2023	**PERLISTEN S SERIES**

Combined Award with Mobile Devices Expert Group

EISA MOBILE DAC 2022-2023	**iFi AUDIO XDSD GRYPHON**	EISA MOBILE SPEAKER 2022-2023	**JBL FLIP 6**
EISA WIRELESS HEADPHONES 2022-2023	**SONY WH-1000XM5**		

Photography Expert Group

EISA CAMERA OF THE YEAR 2022-2023	**NIKON Z 9**	EISA VLOGGING CAMERA 2022-2023	**SONY ZV-E10**
EISA MICRO FOUR THIRDS CAMERA 2022-2023	**OM SYSTEM OM-1**	EISA PHOTO/VIDEO CAMERA 2022-2023	**PANASONIC LUMIX DC-GH6**
EISA APS-C CAMERA 2022-2023	**CANON EOS R7**	EISA LENS OF THE YEAR 2022-2023	**SONY FE 24-70MM F2.8 GM II**
EISA FULL-FRAME CAMERA 2022-2023	**SONY ALPHA 7 IV**	EISA MACRO LENS 2022-2023	**NIKON NIKKOR Z MC 105MM F2.8 VR S**
EISA BEST BUY CAMERA 2022-2023	**FUJIFILM X-T30 II**	EISA MANUAL LENS 2022-2023	**LAOWA 90MM F2.8 2X ULTRA MACRO APO**
EISA PROFESSIONAL CAMERA 2022-2023	**CANON EOS R3**	EISA PHOTO/VIDEO WIDE ANGLE ZOOM LENS 2022-2023	**SONY FE PZ 16-35MM F4 G**
EISA PHOTO/VIDEO ZOOM LENS 2022-2023			**PANASONIC LEICA DG VARIO-SUMMILUX 25-50MM F1.7 ASPH**
EISA PROFESSIONAL TELEPHOTO LENS 2022-2023	**NIKON NIKKOR Z 400MM F2.8 TC VR S**	EISA TELEPHOTO LENS 2022-2023	**NIKON NIKKOR Z 800MM F6.3 VR S**
EISA STANDARD LENS 2022-2023	**FUJIFILM FUJINON XF33MM F1.4 R LM WR**	EISA TELEPHOTO ZOOM LENS 2022-2023	**SONY FE 70-200MM F2.8 GM OSS II**
EISA STANDARD ZOOM LENS 2022-2023	**TAMRON 28-75MM F/2.8 DI III VXD G2**	EISA TRAVEL ZOOM LENS 2022-2023	**TAMRON 18-300MM F/3.5-6.3 DI III-A VC VXD**
EISA SUPERZOOM LENS 2022-2023	**SIGMA 150-600MM F5-6.3 DG DN OS | SPORTS**	EISA WIDE ANGLE LENS 2022-2023	**SIGMA 20MM F2 DG DN | CONTEMPORARY**
EISA ZOOM LENS 2022-2023	**TAMRON 35-150MM F/2-2.8 DI III VXD**	EISA VLOGGING CAMERA 2022-2023	**SONY ZV-E10**

Mobile Devices Expert Group

EISA ADVANCED SMARTPHONE 2022-2023	**OPPO FIND X5 PRO**	EISA WIRELESS HEADPHONES 2022-2023	**SONY WH-1000XM5**
EISA BEST BUY SMARTPHONE 2022-2023	**HONOR 70**	EISA MOBILE SPEAKER 2022-2023	**JBL FLIP 6**
EISA MULTIMEDIA SMARTPHONE 2022-2023	**SONY XPERIA 1 IV**	EISA IN-EAR HEADPHONES 2022-2023	**OPPO ENCO X2**
EISA SMARTWATCH 2022-2023	**HUAWEI WATCH GT 3 PRO**	EISA TABLET INNOVATION 2022-2023	**TCL NXTPAPER 10S**

In-Car Electronics Expert Group

EISA IN-CAR AMPLIFIER 2022-2023	**HELIX P SIX DSP ULTIMATE**	EISA IN-CAR PREMIUM UPGRADE 2022-2023	**AUDISON AF M12.14 BIT**
EISA IN-CAR SOUND PROCESSOR 2022-2023	**ESX QL812SP**	EISA IN-CAR DSP SOFTWARE 2022-2023	**DSP PC-TOOL 5 BY AUDIOTEC FISCHER**
EISA IN-CAR SPEAKER SYSTEM 2022-2023			**GROUND ZERO GZ ULTRA T-30 + GZ ULTRA K-165**
EISA IN-CAR SUBWOOFER 2022-2023	**HERTZ MPS 250 S2/S4**	EISA IN-CAR DASHCAM 2022-2023	**NEXTBASE 622GW**
EISA IN-CAR HIGH-END COMPONENT 2022-2023	**GROUND ZERO GZ ULTRA A-2**	EISA IN-CAR CAMPER VAN COMPONENT 2022-2023	**ETON UG FIAT SUB 6A**
EISA IN-CAR OEM PREMIUM AUDIO SYSTEM 2022-2023			**MASERATI GRECALE WITH SONUS FABER HIGH PREMIUM AUDIO SYSTEM**

PIONEER ELITE VSX-LX505 9.2-CHANNEL A/V RECEIVER

Versatile Performer

RATING

PERFORMANCE ★★★★½

FEATURES ★★★★½

ERGONOMICS ★★★½☆

VALUE ★★★★½

By Daniel Kumin

PIONEER'S VSX-LX505 Elite A/V receiver represents a new generation of feature-packed yet reasonably priced AVRs. It boasts up-to-date technology and enough channels to rock a full 5.1.4 Dolby Atmos or DTS:X surround setup with four height speakers without having to rely on an outboard amplifier to power "extra" channels. And that's not its only marquee feature: The LX505 is Roon Tested to ensure compatibility with the music-management/streaming software, supports HDMI 2.1/4K passthrough on its main HDMI inputs and outputs, and is certified to work with Sonos systems. It also supports 8K video and incorporates Dirac Live room/speaker-correction EQ technology along with Pioneer's proprietary MCACC (Multi-Channel Acoustic Calibration) system.

Like most of today's AVRs, the list of features is long and varied and includes a set of 11.1-channel preamp outputs and 11 physical speaker outputs, nine of which can be powered simultaneously. Having nine channels of power on hand also makes for plenty of Zone-2/3 options, among them the ability to use the "height" speaker outputs to power a remote listening zone and send stereo audio from the main zone to a dedicated pair of "Zone B" line-out jacks.

The LX505's HDMI 2.1 implementation supports 40 Gbps-capable 4K on only three of its six HDMI inputs—though unless you have more than three of the latest-gen game consoles I don't see this as a constraint, especially since the remaining ins and outs are 8k-capable and support 4K /120, HDR, and variable refresh rates. The LX505 shares this minor limitation with several current-gen AVRs, including the Onkyo TX-NR7100 I reviewed in the April/May 2022 issue (also on SoundandVision.com), with which it also shares a similar back-panel layout (Onkyo and Pioneer share corporate ownership).

A few more noteworthy items include pass-through compatibility with Dolby Vision, HDR10+, and HDR10 high dynamic range (HDR) processing and the ability to facilitate voice commands from Alexa (Amazon), Google, and Siri (via Apple AirPlay 2). The receiver also supports playback via Chromecast and DTS Play-Fi in addition to the previously mentioned Sonos and Roon, the latter only as a wireless Chromecast/AirPlay endpoint and, therefore, limited by the resolution of those protocols. The Pioneer also supports two-way Bluetooth with high-resolution signal transmission enabled by aptX HD, which means it can serve up a very decent

listening experience to wireless headphones or speakers.

Despite all of this functionality, the LX505's front panel is refreshingly clean thanks to a drop-down door that conceals one HDMI and one USB port, a headphone output, and a number of direct-access buttons for controlling remote listening zones, cycling through surround modes, recalling personal presets, and much more. And we're just scratching the surface here in terms of features so a trip to Google is warranted if you want to dig deeper.

SETUP

My first order of business was hefting the almost 29-pound Pioneer atop my component rack. Some may mourn the decline of the foot-tall, 75-pound, class AB-powered A/V receiver: not I. Hookup was the usual matter of shifting HDMI cables, running a long RCA line to my subwoofer, and wiring in (and keeping track of) nine loudspeaker cables—though I must point out that the LX505's cheap plastic multiway binding posts are what you expect to find on a $199 house-brand receiver, not a $1,500 AVR.

My 5.1.4 speaker array is a hybrid — mongrel, if you prefer — of three different brands with a proven track record of providing excellent performance together. The main left/right positions are occupied by a pair of stand-mounted three-way speakers with near full bandwidth capability and low sensitivity, which makes them a fair workout for any amplifier. Rounding out the setup is a powered subwoofer, center speaker, two rear surrounds, and four height speakers—a pair of ceiling-bounce models up front and two mounted high in the back of the room.

With everything set up and ready to go, it was time to put the Pioneer's room/speaker equalization systems to the test. I began with Dirac Live, which unlike most competing acoustical calibration systems, requires an outboard device to run its software—in this case, Pioneer's Remote App (iOS or Android), which I ran on my iPad mini 5. Following the same process used for my review of the Onkyo TX-NR7100, I chose Dirac's "Detailed" setup, which averages nine microphone positions; there's also a "Quick" option that uses three mic positions but the Pioneer implementation does not include the standalone Dirac Live Bass Control feature, which can integrate multiple subwoofers.

It took about 45 minutes for Dirac Live to perform its magic with my 5.1.4-channel layout. The results were excellent with a dramatic tightening and smoothing of perceived bass and a more focused midrange. The system recognized my 9.1 speaker layout and set correct levels and distances (delays), imposed equalization "cuts" to address my room's two most egregious modes (around 85Hz and 135Hz), and dialed in my preferred "house curve" with a gentle drop-off of 2dB or so over the top three octaves.

Next up was Pioneer's MCACC system, which performs the same basic functions as Dirac Live: It analyzes room acoustics and compensates for any low-frequency peaks imposed by room modes (Pioneer breaks this out as "Standing Wave Control"), observes speaker response and "corrects" any adjudged deficiencies, and balances channel levels and delays to achieve ideal loudness and phase performance from all nine speakers—10, if we count the subwoofer.

MCACC is a three-tier system with basic, Advanced, and Pro versions. Although the LX505 is the current flagship in Pioneer's AVR lineup, it incorporates the Advanced version, which is mostly distinguished from Pro by the lack of dual subwoofer outputs and EQ calculation and distance-compensation to a hair-splitting 1 millimeter precision. I have to wonder where one can find MCACC-Pro—I couldn't. With MCACC engaged, the receiver cycled through the usual series of noises bursts and clicks but, unlike other systems, Pioneer provides a basic onscreen display to keep you apprised of what's happening.

The test mic was missing from the well-travelled test sample we received from Pioneer so I used one I had on hand from an earlier

At a Glance

- \+ Dirac Live and Pioneer MCACC room/speaker correction
- \+ 9 powered channels for driving a 5.1.4 Dolby Atmos or DTS:X system
- \+ HDMI 2.1, 8K-ready with variable refresh on all inputs
- − Small, unlit remote
- − Cheesy speaker-out terminals
- − Can't store Dirac and MCACC "runs" simultaneously

Price: $1,499

(844) 679-5350

pioneerhomeusa.com

Left, a drop-down panel reveals an HDMI port and a number of direct-access buttons. Below, the rear panel provides every type of connector you'll need.

PIONEER ELITE VSX-LX505 9.2-CHANNEL A/V RECEIVER

Pioneer model, which appeared to be suitably calibrated given the audible results. Like Dirac Live, MCACC can accommodate up to nine microphone positions. For the initial mic position, it took about 10 minutes for the system to work its way through all 10 (9.1) channels but measurements taken from subsequent mic positions took only 5 minutes or so each. Though Pioneer doesn't specify how it manipulates data collected from multiple mic positions, I presume they are averaged to optimize corrections for all measured listening positions.

The Pioneer system was pretty much spot on in calculating channel levels and distances to all of my speakers, though its on-screen "report," which shows equalization for the LCR and surround channels, did not graphically reveal any room-mode corrections—only general adjustments to speaker response. MCACC's EQ adjustments for each channel are displayed in a nine-band graphic EQ display, which you can further tweak. In other words, Pioneer gives you all the tools you need to wreak aural havoc. As Elmer Fudd might say, if you plan on messing with the derived EQ settings, proceed "vewy, vewy, ca'fuwy."

At the end of the day, the results produced by MCACC sounded very similar to those obtained from Dirac, though I could not make a meaningful comparison since the LX505 only stores one "run" of MCACC or Dirac, at a time; Dirac does, however, provide three memory presets for storing modified versions of the original curve. While I could cheerfully use all of my allotted space to compare and contrast the intricacies of the two systems, my editor would have a fit, so here's my 10-cent summary: casual users will be perfectly happy with a one- or perhaps three-mic-position run of MCACC, while the geeks among us will want to dive fully into the Dirac-verse, possibly even downloading and running the fuller-version Dirac software on a Mac or PC and using a calibrated mic to measure many more positions. At the end of the day I preferred Dirac, mostly for its customizable house-curve options, but set-and-forgetters will find Pioneer's MCACC system easier to use and fully capable of producing excellent results.

PERFORMANCE

With setup complete, I surfed and quickly found a convenient streaming presentation of that old action-movie chestnut *Jack Reacher*, which the Pioneer dutifully up-mixed to a full Dolby Atmos presentation, which was surprisingly satisfying. Gunshots were distinctive—crisp yet deep and accurately spatialized—and dialogue, from whispered mutterings to shouts, was locked on-screen and unfailingly intelligible and natural sounding.

I streamed most of the music I used for critical listening via Roon, disabling MCACC but leaving the two Roon filters I use to mitigate my room's primary low-frequency modes engaged. (This is my usual practice; since every room and setup is different, taking onboard correction systems out of the loop makes base-line sense to me, but

Specs

POWER OUTPUT: 120 watts per channel (20 Hz-20 kHz, 0.08% THD, 2 ch. driven into 8 ohms)
AUTO SETUP/ROOM EQ: Dirac Live, Pioneer MCACC
VIDEO PROCESSING: HDMI 2.1/HDCP 2.3 (4K/120, 8K/60, VRR-Variable Refresh Rate, ALLM-Auto Low Latency Mode; Dolby Vision, HDR10+, HDR10, HLG passthrough
VIDEO INPUTS: HDMI (7, 1 front), composite (2), component
AUDIO PROCESSING: Dolby Atmos, Dolby TrueHD, Dolby Digital Plus, DTS:X, DTS Neural:X, DTS-HD Master Audio
AUDIO INPUTS: Coaxial, optical digital, MM phono, RCA analog stereo (4)
VIDEO OUTPUTS: HDMI (2, 1 with eARC, 1 Zone 2)
AUDIO OUTPUTS: Speaker (11, incl. Zone 2; 9 active simultaneously, up to 4 assignable to zones); preamp (11.1, incl. Height-2/Zone 3, dual (parallel) subwoofer line outs)
WIRELESS: Bluetooth 4.2, Wi-Fi, AirPlay 2, Chromecast; works with Alexa, Google, Sonos
ADDITIONAL CONNECTIONS: AM/FM antenna; Ethernet (network, control, streaming); RS-232, 12v-trigger out, IR remote in/out, USB (power only)
DIMENSIONS: (WxHxD, inches) 17.1 x 8 x 15.2 in.
WEIGHT: (pounds) 28.7 lb.

subduing my room's influence in a long-known, repeatable way makes for more meaningful judgements.)

I've been a Bonnie Raitt fan since, as a clueless teen, I once opened for her in a tiny church coffeehouse long before she broke nationally (no, I'm not telling when that was). So I was eager to give her new album, *Just Like That*, a close listen. Streaming it via Tidal/MQA, I was delighted to hear that her voice—still just about the best out there—remains the same powerful, flexible, nuanced instrument, even after a half-century of hard use. The LX505 produced enough power to deliver the album at control-room-playback levels with room to spare. There was no hint of squish or flabbiness on the bottom, even with the receiver in Direct mode, playing full-range stereo with no subwoofer and putting maximum demands on its main left-/right-channel amplifiers.

Just as important, the Pioneer's resolution was high enough to reveal a ghost of an edge on Raitt's vocals on "Something's Got a Hold of My Heart"—presumably a deliberate production choice (I also heard it on high-end HiFiMan headphones running through a separate DAC/headphone-amp)—while delineating her inimitable, moaning, compressed-Strat slide guitar with perfection.

SACD may be a dead, or at least moribund format, but it lives on in my system. I cued up the cherished Telarc recording of Stravinsky's *Rite of Spring*, again running subwoofer-less to sweat the amp channels as hard as possible, and let the Pioneer up-mix the five channels to height-enabled 9.0. The results did not disappoint. From the opening, birdsong-like bassoon solo to the violent, club-wielding climax, the Pioneer ably reproduced the breadth and power of this superb recording. I heard no issues on low-end impact, definition, or breadth and depth of the sound as recorded in Cincinnati's Music Hall, and the Atmos embellishment dialed in via the LX505's listening mode options contributed a welcome sense of height to the front-stage "air."

Watching my usual movie trial scenes produced consistently fine results, so I moved on to the reference-standard *Bladerunner 2049* and watched it all the way through—something I had, unaccountably, never done before. The undisputed star of the show was Hans Zimmer and Benjamin Wallfisch's brilliant score with its heavy electronica, frequently arresting spatial tricks, and deep and powerful bass, produced in full by the LX505. I switched on the MCACC EQ calibration and, amazingly, the sound was utterly perfect without any touchups of balance or subwoofer level—something that happens very rarely. This is one of the most heavily spatial soundtracks I know, and the LX505 delivered it seamlessly through my nine speakers, with smooth, consistent pans and a convincing but not overblown sense of height.

In sum, whether I was playing music or watching movies, I had no complaints about the receiver's sonic delivery.

Whether I was playing music or watching movies, I had no complaints about the Pioneer's sonic delivery.

HANDS ON

Of course, there's a lot more to an AVR than its sound and visual delivery, however excellent. Like virtually every competing model, the Pioneer LX505 is drowning in features and functions, far too many to cover here, so allow me to cherry pick a few to highlight.

I'll begin with a complaint. The pokey remote Pioneer supplies was a disappointment (its Onkyo sibling gets the same one). Sure, the Pioneer Remote app is free and a vastly superior alternative, but hey—this is a $1,500 component. The good news: apart from those cheesy speaker terminals, that was the only serious gripe I could muster, and the Remote app, downloaded to my iPad, proved a pleasure to use for streaming and most everything else.

There's much to like, starting with the Personal Preset feature that lets you establish three one-touch presets for storing combinations of source, output, and listening mode (but not channel balances, unfortunately). With 24-bit/192kHz-capable digital-to-analog hardware, the LX505 is ready for hi-resolution streaming from apps or an external server. In a quick comparison, hi-rez files streamed via the TwonkyMedia server residing on my iMac and through my excellent Roon-ready standalone DAC were indistinguishable.

The list of features goes on and includes onboard apps for Tidal, Spotify, Pandora, and Amazon but not Qobuz (my preference) and an IMAX Enhanced mode in addition to the requisite Dolby Atmos and DTS:X surround processing. The receiver also supports HDMI with eARC (enhanced Audio Return Control), which worked without fuss or delay when connected to my Sony OLED TV, flowing Atmos and all other surround formats without incident, something that has not always been the case in my experience.

Lastly, for the truly tech-obsessed (and custom installers), the Pioneer has a web-setup interface: enter the IP address shown on the Network setup page into your browser and you get a page with basic setup and control functions. To which I'll add an Easter egg: enter "ciuser" for the login and password, instead of the default "admin/admin," and you gain access to a vastly more complete set of controls, including a few esoteric items not even accessible via the supplied remote or free app.

CONCLUSION

TMI? Probably. So let me leave you with this: I liked the Pioneer VSX-LX505 a good deal. I think it's a fairly priced, near-state-of-the-art audio/video receiver. AV-ers seeking performance and function over more subjective variables like looks or brand-cachet are likely to be very satisfied.

The Verdict

The Pioneer VSX-LX505 provides a lot of bang for your buck, including nine channels for powering a full Dolby Atmos or DTS:X setup and two excellent auto-EQ options.

JVC DLA-RS1100 4K D-ILA PROJECTOR

SOUND & VISION TOP PICK

RATING

PERFORMANCE ★★★★★

FEATURES ★★★★★

ERGONOMICS ★★★★½

VALUE ★★★★½

The Real Deal

By Thomas J. Norton

TRUE NATIVE 4K projectors have only been widely available—and reasonably affordable—for the past few years. Prior to that, most home projectors used a process called "pixel shifting" to produce 4K images: A 2K imaging device first presents half of the pixels in each 4K frame, shifts the image by less than the distance of a single pixel, and then displays the other half of the pixels. All of the pixels in the 4K source appear on screen—just not at the same time. The shift takes place so rapidly that it is undetectable to the human eye.

Projectors that use pixel shifting are still available because the process works surprisingly well and helps keep the cost of projectors down. I've been using JVC's pixel-shifting DLA-X790R (a.k.a. RS540) for the past three years and have never been disappointed. Even so, I welcomed the opportunity to swap it out with a true 4K projector—JVC's new DLA-RS1100. At $7,000, the DLA-RS1100 (also available as the DLA-NP5) is the second least expensive model in JVC's D-ILA projector lineup, which as of mid-year included 10 models ranging in price from $4,000 to $26,000; six of which are pixel-shifting 8K projectors (JVC calls the technology 8K e-shift and 8K e-shiftX), including the $26,000 DLA-NZ9 we reviewed in 2021.

Weighing in at just over 42 pounds, the RS1100 is a beast compared with many home projectors, so if you're planning a ceiling mount, it's a two-man job. In classic JVC fashion, the projector's all-glass 65mm (2.6-inch) lens is flanked by two exhaust ports—one on either end of the front panel, which also has a remote sensor and three tiny power on/off indicators along the top edge. Around back there are buttons for power on/off, menu (with a back button), and input selection plus two HDMI 2.1 inputs (both 4K/120p and HDCP 2.3-compliant), the power connection, an RS-232 jack, an Ethernet port, a USB service port, a remote on/off trigger (for connection to an AVR or pre/pro), and a 3D Synchro jack for connecting the optional wireless transmitter you will need if you plan to watch 3D programs (3D glasses are also sold separately).

For this review, I used only the HDMI ports and power connection (of course!). I didn't test the projector's 3D abilities (my old 3D glasses have long gone missing!), though my experience with the older DLA-RS540 suggests it should be fine, apart from the inevitable dimness of projected 3D. Due to the current lack of 3D activity, the RS1100's 3D innards aren't likely to be much different than those in the RS540, except for what might be needed to accommodate the change from pixel-shifting to full 4K.

The RS1100 is covered by a limited three-year warranty offering replacement up to one year and another two years for parts and labor. It uses a 265-watt lamp to deliver a rated peak output of 1900 ANSI lumens and includes a removable plastic lens cover; unlike some of JVC's earlier designs,

the cover is not automated. The lens provides powered zoom and focus in addition to accommodating a wide range of vertical (±80%) and horizontal (±34%) lens shifting. JVC rates the lamp life at 4,500 hours in the Low lamp mode, though I suspect fussy users will want to replace it much sooner than that to maintain optimum brightness, particularly for high dynamic range (HDR) content. (Lamps lose brightness gradually with age and eventually reach their rated life, which occurs when light output has dimmed to half the lamp's original brightness).

The JVC has an aperture (iris) that can be set to one of two dynamic settings or an adjustable (but fixed) point. Its three D-ILA imaging devices have a native resolution of 4096 x 2160, a carryover from theatrical production that is slightly higher than the 3840 x 2160 standard adopted to match the 16:9 aspect ratio of consumer displays. So why not develop dedicated chips for consumer 4K? Simply because redesigning the 4096 x 2160 professional imagers would increase the cost of consumer projectors. There's also no downside to using

slightly higher resolution chips in consumer projectors, apart from a small overscan of 125 unused pixels on each side of the picture—pixels that will be hidden in the screen's black masking anyway.

Consumer video projectors (and many flat-panel TVs) are unable to reproduce the highest peak brightness levels included in most HDR sources. These displays step around this limitation by using a process called tone mapping. Tone mapping minimizes hard clipping of bright highlights while still getting some benefit from the detail in the source (particularly color) that would be lost without the mapping.

Three high dynamic range (HDR) formats are supported by the RS1100: HDR10, HLG (Hybrid Log Gamma) and, HDR10+. HLG is used mainly for real time program material such as sports. HDR10+ and Dolby Vision are similar in that they both support dynamic tone mapping, which will adjust the mapping as needed by the program, often responding frame-by-frame. Dolby Vision is the most widely used of these two formats, but no home projector we know of can process Dolby Vision. When a projector receives a Dolby Vision source it strips it down to its HDR10 base layer and, in effect, treats it like a plain HDR10 source. Without further processing, both standard HDR10 and stripped down Dolby Vision can produce only static tone mapping that remains constant throughout the program.

The RS1100 makes up for this limitation with its own selectable dynamic tone mapping system, Frame Adapt HDR, which analyzes peak brightness in an HDR10 (or stripped down Dolby Vision) source frame-by-frame or scene-by-scene (selectable by the user). It then adjusts the tone mapping in real time to optimize the picture. The RS1100 also includes a "Theater Optimizer" that helps it adapt to the size and gain of your screen (selectable only on HDR sources). There's also a separate setting for use with Panasonic disc players that have their own adaptive tone mapping (it overrides JVC's tone mapping).

The JVC offers a wide range of other controls, some of them obvious and others less so. To engage the Frame Adapt HDR function, for example, you must first select HDR10 or Auto (enables the projector to switch automatically to HDR or SDR, depending on the source). With Auto engaged, lamp power will then also switch automatically to Low for SDR (standard dynamic range) sources or High for HDR content (you can also change it manually).

White-balance adjustments (Gain and Offset) can be found in the Color Temp menu and you'll find a Color Management System (CMS) under Color Profile. Other useful controls adjust the zoom, shift, and focus of the powered lens system with the ability to store multiple settings (16:9 and widescreen, for example) in memory presets for instant recall. And for content that doesn't fill the entire screen, you can adjust the masking (such as the black bars on widescreen films). There's also a Pixel Adjust control for fine-tuning red, green, and blue convergence, though I never felt the need to use it because the projector's out-of-box alignment was excellent. There's also an image adjustment control for those who plan to use an add-on anamorphic lens.

What I've offered here is only a summary of the RS1100's most important controls. I'd say consult the Quick User Guide that comes with the projector, but it's extremely basic. A lot more information is provided in a downloadable, 100-plus page manual, but brace yourself for a deep dive—it's more than a little dense. The good news is, there's no harm in experimenting with the controls, though once you arrive at a satisfying set of adjustments for SDR and HDR, I strongly recommend jotting down *every* setting so you can recreate that grouping if you hit reset or are tempted to do further experimentation (an occupational hazard for videophiles!).

The RS1100's remote control, for me, was a mixed bag. The lettering is clear and its backlighting is good, but the buttons are all flush with the main surface, making them hard to locate by feel in the dark. The handset is also smaller than the remote for my DLA-RS540 projector, which also gets in the way of smooth operation. Interestingly, the RS540's remote worked fine on the RS1100.

SETUP

Testing was conducted using a 96-inch-wide, 2.35:1 Stewart Filmscreen StudioTek 130 screen with a gain of 1.3. The projector was located 15 feet away on a sturdy shelf that sits high on the back wall of my room. I used Blu-ray and Ultra HD Blu-ray discs for all of my subjective evaluations.

Even directly out of the box, pre-calibration in the manual aperture (iris) lens setting produced SDR/HDR images that were nearly faultless. After some minor, subjective tweaking, I seriously doubted whether a full SDR calibration was even necessary but I did one anyway. All of my white-balance (Color Temp) measurements produced Delta E figures that that were well under 4.0 and only a few exceeded 3.0. Individual color-management (Color Profile) results were also noteworthy with Delta E numbers all falling below 3.0. (A Delta E of 3.0 is widely considered the point below which any deviation from ideal will be invisible, though some experts put the number at 4.0). Not surprisingly, the visible change from pre-calibration to full calibration was nil (see Test Bench), but it's worth pointing out that this may or may not be the case with all samples. (Note: Don't attempt to calibrate in either of the Auto aperture settings; they produced very odd results in measurement, though not in actual viewing, due to their dynamic nature). With the lamp set to Low, the peak white level for SDR measured just over 25 foot-Lamberts (ft-L).

Moving to 4K Ultra HD/HDR, the

At a Glance

- \+ Deep blacks
- \+ Exceptional resolution
- \+ Dynamic tone mapping
- − So-so remote control
- − Dense owner's manual

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Test Bench

HD/SDR

FULL-ON/FULL-OFF CONTRAST RATIO (SDR): UNMEASURABLE

These measurements and charts were produced using Portrait Display's Calman software, together with X-Rite i1Pro 3 and Klein K-10A color meters and a Murideo test-pattern generator. The measurements were taken on a 96-inch-wide Stewart Filmscreen StudioTek 130 screen with a gain of 1.3.

The standard dynamic range (SDR) peak white reading for this measurement (with the projector's iris on manual and wide open) was 27.6 ft-L (94.7 nits). The black level was 0.000 ft-L. These numbers were read directly from the Stewart screen using the Klein meter. While the black level in SDR was barely visible to the naked eye in a totally dark environment on a full black screen, it was unmeasurable with the Klein meter.

The charts shown here are for SDR. Before calibration in the SDR Cinema Picture Mode, with some minor adjustments but no color calibration, grayscale Delta E figures ranged from a minimum of 1.15 at 100% to a maximum of 3.83 at 40%. After calibration with the Color Temp controls, the minimum and maximum grayscale Delta E figures were 0.7 at 80% and 1.6 at 20%, respectively. The color Delta E figures were all so low out of the box (a low of 0.13 for yellow and a high of 1.46 for cyan) that no color-management calibration was applied with the Color Profile controls.

The results of a saturation test, as color saturation increased by 20% steps, were good, though slightly undersaturated at less than peak output in red, magenta, and blue. A color checker test, which checks for the accuracy of a wide range of real world colors, was satisfactory but not exceptional, with an average Delta E of 3.4 and a maximum Delta E of 5.3.

(Delta E is a figure of merit indicating how closely the result matches the target value. Delta E figures below 3—some experts allow for 4—are generally considered visually indistinguishable from ideal.)

The JVC passed the 3:2 HD, MA HD (motion adaptive HD), and 2:2 pulldown in our HD/SDR video tests. It won't accept a native 480i input; you have to upconvert older material such as DVDs externally—most Blu-ray players can do this. The RS1100 also passed both luma and chroma resolution tests.

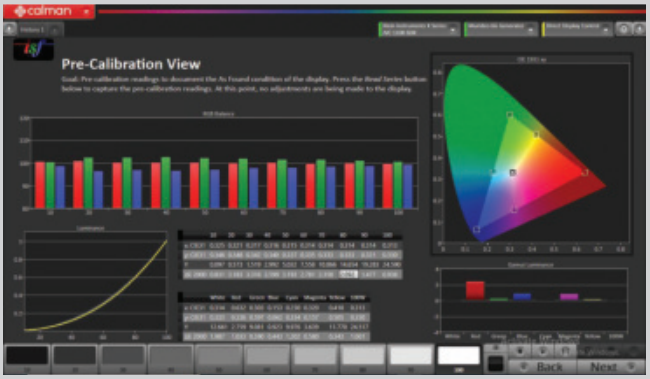
HD/HDR

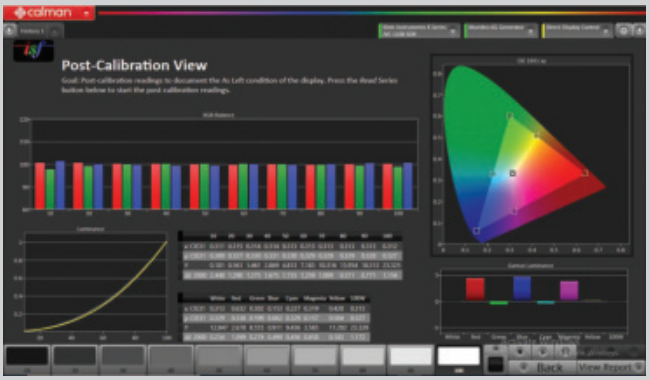
FULL-ON/FULL-OFF CONTRAST RATIO (HDR): 19,797:1

Our objective results when calibrating the JVC using Calman calibration software were poor. JVC's recommendations involved the use of special JVC calibration software that we didn't have—software that, in any event we were informed (independent of JVC) isn't compatible with our color meters. I soldiered on using JVC's recommendations for setting brightness and contrast, but proceeded from that point using Calman. The results were still unusable.

At that point, I determined that the subjective settings I had used early on for HDR were my best option. The results with these settings were excellent, as described in the main text of the review. (These settings appear in the online posting of the review on soundandvision.com.) If you choose to have the JVC calibrated by an Imaging Science Foundation (ISF)- or THX-trained technician—something we certainly recommend—make sure you put at least 200 hours on the lamp before calibration. (For most of the results in this review, subjective and objective, the lamp hours exceeded 200).

This largely subjective setup process limited the objective HDR measurements available to us. As measured off the screen using a Konica Minolta LS-100 luminance meter, the peak luminance was 136.6 nits and the black level 0.0069 nits, resulting in the full on/full off contrast ratio shown above. The peak luminance didn't vary with window size (unlike a flat-panel TV, the output of a projection lamp isn't affected by the size of the white window). The JVC covered 70.1% of the BT.2020 color space and 93.6% of P3. Virtually all consumer HDR source material uses P3.





Specs

DIMENSIONS (WxHxD, inches): 19.7 x 9.2 x 19.5
WEIGHT (pounds): 42.3
VIDEO INPUTS: HDMI 2.1 (2, both HDCP 2.3-compliant)
OTHER CONNECTIONS: 3D Synchro, RS-232C (D-sub 9-pin), USB (service), LAN (RJ-45/control), 12-volt trigger
LENS: Zoom and focus with ±80% vertical and ±34% horizontal lens shift
RATED LAMP LIFE: Up to 4,500 hours

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JVC DLA-RS1100 4K D-ILA PROJECTOR

RS1100 doesn't approach the HDR brightness achievable on a good flat-panel TV, but this is a limitation of all current projectors. And while HDR is far more limited on a projector than on a direct-view TV, the projector can make valuable use of the wide color gamut offered by most HDR source material (DCI-P3 in a BT.2020 window).

I took more than a few liberties in setting up the JVC for HDR (see Test Bench). Despite this (or perhaps because of it), the JVC's HDR performance was consistently impressive and, on the best material, compelling.

HD/SDR PERFORMANCE

On a broad range of SDR/HDR program material, the results were exceptional. *A Knight's Tale* is not only a cracking good story (despite it's...um...interesting music) but one of the better-looking SDR discs in my collection. From the period costumes to the gritty (but not *too* gritty) medieval jousting scenes, every detail was clearly rendered by the JVC, with warm skin tones and superbly natural color throughout.

The exceptional 2008 HBO miniseries *John Adams* was similarly spectacular. As a TV production it offers numerous tight close-ups, revealing (but not overdoing) every facial detail from whiskers to untamed hair peeking out from the stylish wigs seen in the early episodes—wigs that appear go out of style about halfway through the series. The environment here is heavily into shades of brown, except when Adams and Ben Franklin bring their diplomatic skills (or lack of same in the case of Adams) to the French court before many in that court would later lose their heads (not shown!).

Far more colorful were two underappreciated Disney animated features from the early to mid-nineties, *Hercules* and *The Hunchback of Notre Dame*. Both are personal favorites and full of brilliant color. The latter may be the darkest Disney production in memory, sticking relatively close to the original story until the inevitable Disney-fied ending. It also gives the villain the most striking scene in the film—something about a fireplace! Both discs were so spectacular on the JVC that I don't recall them ever looking better or even as good.

It will come as no surprise to JVC observers that the RS1100's blacks were superb. No, not as visually deep as an OLED flat-panel TV, but well beyond the capability of our color meter to measure. JVC reputation for great black levels is secure here.

UHD/HDR PERFORMANCE

The computer-animated *Trolls World Tour* may be less interesting in its story than the clever original, but it's loaded with some of the most brilliant colors you'll see from any HDR source. The reds, In particular, jump out at you immediately, and here that's obviously intended. There aren't any truly dark scenes here, but the overall punch and contrast was outstanding.

Tangled is one of my favorite animated titles, and though it is not as grippingly colorful as *Trolls*, it is certainly a better story and a first-class transfer. But it was on Tangled that I noticed my only real quibble with the JVC; images looked softer in the Frame Adapt HDR (dynamic tone mapping) mode than with the direct HDR10 setting. This wasn't overtly obvious, and most folks won't notice it immediately, but since Frame Adapt only struts its stuff intermittently where needed, I did most of my serious viewing in the HDR10 setting. I'm admittedly a glutton for detail as long as it's not overdone. (For more thoughts on why the JVC's clarity might differ in the two modes, see my blog post "Home on the High Dynamic Range" on soundandvision.com.)

Of course there's more to video than animation. *Dune* (Part 1, 2021) lacks the bright, punchy colors in the above titles, but that's by design. From the blindingly bright sands of Arrakis to the gloomy interiors early in the film, the atmospheric monotones looked even more impressive on the RS1100 than they did when I first saw them in a Dolby Cinema theater last fall. Blacks were less amazing in HDR than in SDR (not unusual), but still very effective.

CONCLUSION

I still love my three-year old JVC DLA-RS540, but in a world where premier TVs up to 85-inches diagonal (74-inches wide) can compete with a new projector, choosing between the latter and a BIG-screen TV is harder than it once was. But 74 inches is a far cry from the 96-inch width of my own screen, which many projector enthusiasts would consider "small!" There's still plenty of room for a great projector like the JVC DLA-RS1100 to thrive. Its performance more than upholds JVC's well-deserved reputation in the home projector market.

The Verdict

With its exceptional overall performance, JVC's DLA-RS1100 projector defines the law of diminishing returns where increasingly subtle improvements command dramatically higher prices.

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MONITOR AUDIO SILVER 7G SURROUND SPEAKER SYSTEM

SOUND & VISION TOP PICK

RATINGS

System

PERFORMANCE

BUILD QUALITY

VALUE

Lucky Seven

By Thomas J. Norton

I'VE REVIEWED many Monitor Audio speakers over the years. When I lived in California I reviewed the Silver 10s. Later, after I moved east, I bought a pair of the Silver 10s (actually three of them—long story), and when Monitor released a proper three-way Silver Series center speaker, I acquired one of those, too. When other speakers aren't in-house for review, that Silver trio becomes the core of a Franken-system that includes surrounds, overhead Atmos speakers, and subwoofers from other brands.

The Silver Series, now in its 7th generation—hence the 7G designation—has evolved continuously over the years, both in refinement and, not surprisingly, price (Monitor Audio is hardly alone here). The speakers are designed at Monitor's headquarters in the U.K. and built in a company-owned plant in China. For this review, we assembled a 5.1.2 system comprising a pair of Silver 300 7G towers—the second largest of three floorstanders—the new Silver C250 7G center speaker, a pair of Silver 50 7G bookshelf models (used here as surrounds), and a pair of Silver AMS 7G Dolby Atmos-enabled modules. The company has yet to offer a 7G subwoofer for its Silver Series, so we completed the system with a single Silver W-12 6G sub.

For more than 30 years, Monitor Audio has been making speaker cones out of a material they call C-CAM (ceramic-coated aluminum/magnesium)—a thin, light alloy of aluminum and magnesium with a ceramic (alumina) layer. The cones are dimpled to increase rigidity using the latest version of a longstanding technique the company calls Rigid Surface Technology (RST II). But the special attention Monitor gives to its drivers doesn't end there: the tweeters used in all of the models under review are mated with the latest version of the company's Uniform Dispersion (UD) Wave-

guide (UD Waveguide II) and boast an anodized gold finish to improve stiffness and damping. (No, it's not real gold—that would be too heavy for a tweeter).

In a technique used in many Monitor Audio speakers, threaded rods are fastened to the backs of the drivers and extend through the rear of the cabinet where they are tightened down by visible bolts. The rods secure the drivers to the cabinet, increasing the cabinet's front-to-back rigidity and providing a clean appearance without the need for visible screws in front.

Starting with the all-important front left-center-right speakers, the Silver 300 7G is a three-way floorstander with two 6-inch woofers and a 3-inch midrange crossing over at 750Hz and 2.8kHz. In my test setup, a pair of 300s flank the three-way Silver C250 7G center with its two 5.25-inch woofers and 3-inch midrange, which cross over at 650Hz and 3.3kHz. Handling surround duties, the Silver 50 7G's 5.25-inch woofer hands the signal off to the tweeter at 2.6kHz, while the Atmos-enabled Silver AMS 7G's 5-inch woofer crosses over to the tweeter at 2kHz. The specified dimensions of the woofers do seem a bit generous; the 300's 6-inch woofers, for example, measured no more than 5.25-inches across, including surround.

The Silver 300 and Silver 50 are both ported and tuned to 40Hz and 58Hz, respectively, and the 300 has two sets of terminals to accommodate bi-wiring or bi-amping. Foam plugs are provided for sealing the ports (the Silver 300 has two, the 50 one—both in the rear), which might be beneficial in some situations. I left all of the ports open in my setup. The remaining models, including the Silver W-12 subwoofer, are all sealed.

RATINGS

Subwoofer

PERFORMANCE
★★★½☆

BUILD QUALITY
★★★★★

VALUE
★★★½☆

The W-12 isn't much larger than the 12-inch driver it houses—a long-throw C-CAM design driven by a 500-watt class-D amplifier. Rear-panel controls include a low-pass Frequency knob (40-120Hz, continuous) and three switches: Phase (0 or 180°), Power Mode (On or Auto), and Power On. There's also a 12-volt trigger input, a USB input for software updates, L/R stereo RCA inputs and outputs, and a set of LFE in/out jacks. A small panel on top provides a level control along with buttons and a microphone connector for the W-12's Automatic Position Correction (APC) feature. The latter provides a degree of automated DSP room equalization with three operating modes: Music, Movies, and Impact.

All Silver 7G models have magnetic grilles and are offered in five finishes: natural walnut, ash, black oak, satin white, and gloss black; the W-12 is available in satin white or gloss black. The wood finishes are genuine wood veneer, not vinyl, and look first rate. Our review samples were all in satin white but, if given the choice, I'd opt for either gloss black or walnut. For added stability, the Silver 300 towers come with outriggers that can be fitted with spikes (for carpet) or rubber feet. I didn't use the spikes.

SETUP

I placed the Silver 300s at either side of my 96-inch-wide projection screen, about 4 feet out from the wall behind them and angled in toward the center seat. The closest sidewall was about 3 feet from the left speaker. The Silver 50 bookshelf speakers, used here as surrounds, were positioned high up near the back of the room (the room cannot accommodate Dolby's recommended positioning—on the sides of the room, behind the listening position and just above ear height). Finally, the pair of Silver AMS Atmos modules were positioned atop the front left and right Silver 300s, firing upwards at an angle, though they didn't make much of a contribution to the overall presentation due to the room's vaulted ceiling; they can also be mounted high on the side-walls but that isn't practical in my room.

My listening room and setup produces a significant peak between 100 and 200Hz as measured on virtually every loudspeaker I've reviewed in this space. The only way to cure it—and audition speakers as they'd likely sound in a room without this issue—is to use equalization. So, as I've done in the past, I dialed in Audyssey room correction below 300Hz. Above that frequency the room response was left untouched by EQ (except where noted, and apart from nudging the treble control on my Denon AVR-X6700H AV receiver to +1 with some sources.)

All of the source material I used for my evaluation was lossless and from discs, including CD, Blu-ray, and Ultra HD Blu-ray. I used an Oppo UDP-203 Ultra HD Blu-ray player for movies and a Marantz UD7007 player for stereo music listening, which was done with the projection screen retracted and with the grilles removed from the Silver 300 and Silver 50 speakers (the latter when watching movies).

At a Glance

- ⊕ Crisp, clear sound
- ⊕ Nice depth
- ⊕ Tight imaging
- ⊕ Excellent fit and finish
- ⊖ Needs a subwoofer for movies

Price: (with subwoofer) $8,610

800-667-6065

www.monitoraudiousa.com

Test Bench

I conducted several in-room measurements using the Parts Express Omnimic measuring software and microphone, a $300 package that provides a usefully accurate response of a speaker at the main listening seat. The results shown here are for my room. All were taken at the single, seated, ear-level position. (Experience in my room has shown that an average of several readings, taken across a span of about 2 feet, differs little from the single position measurement apart from smoothing out small ripples.) The graphs here are $^1/_{6^{th}}$ octave smoothed.—**TJN**

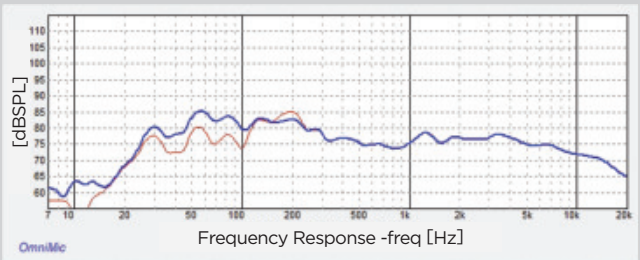


Fig. 1 No subwoofers. Red: No room EQ. Blue: Audyssey in Reference mode, EQ below 300Hz.

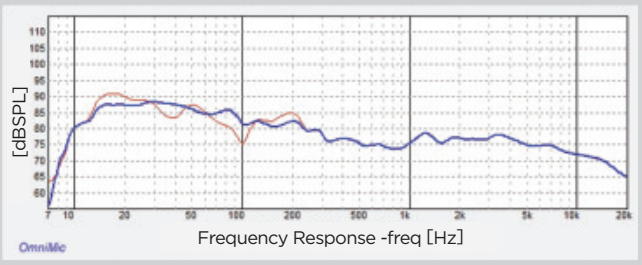


Fig. 2 With subwoofers. Red: No Audyssey room EQ. Blue: Audyssey in Reference mode, EQ below 300Hz.

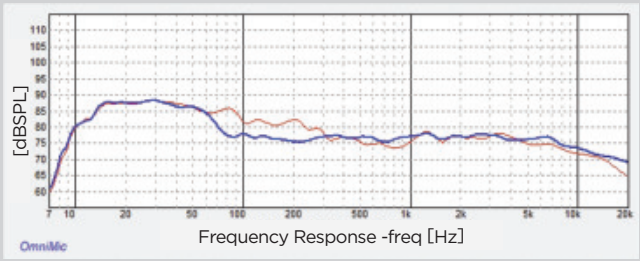


Fig. 3 With subwoofers. Red: Audyssey in Reference mode, EQ below 300Hz. Blue: Audyssey Flat.

Specs

SILVER 300 7G TOWER: ($2,850/pair) 6-in C-CAM cone woofers (2), 3-in C-CAM cone midrange, 1-in C-CAM Gold dome tweeter; 10.8 x 41.2 x 15.3 in (WxHxD, with outriggers); 42 pounds
SILVER C250 7G CENTER: ($1,150) 5.25-in C-CAM cone woofers, 3- in C-CAM cone midrange, 1-in C-CAM Gold dome tweeter; 18.3 x 8.1 x 10.7 in (WxHxD); 15.5 pounds
SILVER 50 7G BOOKSHELF: ($1,150/pair) 5.25 in C-CAM cone woofer, 1-in C-CAM dome tweeter; 6.5 x 11.2 x 10.4 (WxHxD); 12.5 pounds
SILVER AMS 7G DOLBY ATMOS-ENABLED MODULE: ($1,260/pair) 4-in C-CAM cone woofer, 1-in C-CAM dome tweeter; 7.3 x 7.3 x 12.3 (WxHxD); 12.8 pounds
SILVER W-12 6G SUBWOOFER: ($2,200) 12-in C-CAM woofer; 13.4 x 14.6 (including feet) x 16.2 (WxHxD); 44.3 pounds

MUSIC PERFORMANCE

Without the W-12 subwoofer engaged, the Silver 300s (EQ'd below 300Hz as described earlier) extended down to a useful 40Hz at the main listening seat. Bass was tight and clean with a little room-induced unevenness but no obvious strain or boom. Nevertheless, there was an audible lack of weight to the overall presentation, which wasn't a surprise given my large, open concept room. A subwoofer was clearly needed to give all but the least challenging music adequate support, which is true of most of the smaller loudspeakers I've reviewed in this space. The Silver 300s may be floorstanders, but their woofers are small.

I wired up Monitor Audio's W-12 subwoofer (along with the rest of the Silvers) and disabled the Audyssey EQ. Then I engaged its on-board Automatic Position Correction (APC) system, which is designed to measure the subwoofer's response and make appropriate corrections in the sub itself. But in all of the locations I tried, the APC made only tiny corrections and did nothing for a persistent peak at 30Hz.

Supplementing the APC with Audyssey room EQ below 300Hz solved the problem. Once positioned and EQ'd mainly with Audyssey, the W-12 extended the system's low end to around 20Hz as measured at the listening position with moderate levels (the bottom extension of any sub becomes more limited due to compression as the demands on its output increase). On bass challenging music—drums and organ, for example—the W-12 held its own, extending the low end without compromising the clean bass I experienced from the Silver 300s alone.

But the EQ did produce occasional, moderate strain from the W-12 on the most challenging music, and I still hadn't added movies to the playlist. At this point

I realized that a single W-12 wasn't quite enough for my room. I'd need two. But at a price of $2,100 *each*, a pair of W-12 subs would be untenable in a system with a pair of front/left speakers that cost $2,600. So rather than ask Monitor Audio for a second sub, I went no further with the W-12, even though it might still be an effective, if expensive, option for a more modestly-sized room. Instead, I substituted two SVS SB-3000 subwoofers I had on hand ($2,100 for *two* when bought as a pair) and positioned them where they would provide the best results. They were used for all of the observations that follow here.

Two of the best demo/sampler discs I own were produced by the loudspeaker company Dali: (CD Vol. 2 and Vol. 3, no longer available). Though varying a bit from cut to cut, as you might expect, the female vocals on both discs—from Josefine Cronholm, Holly Cole, Sinne Eeg, and others—sounded universally excellent, with no audible coloration, clean sibilants, and precise soundstaging with just the right amount of depth. Male vocals were similarly convincingly rich and full.

The wide range of instruments on these discs, and others, were crisply detailed. If I had to categorize the Silver 300s' balance, I'd say that they lean slightly to the analytic side, but (for me at least) never to an excessive degree. Detailing was precise, from the hardest percussion to the subtlest fingering of acoustic guitar. Electric guitar, notably on Nils Lofgren's concert album, *Acoustic Live*, was as dynamic and punchy as you could hope for.

Another compilation CD I often use as a reliable, pristine source is *Depth of Image* from the label Opus 3. The selections on this disc include only acoustical instruments and vocals. There's little you could call spectacular here—no explosive dynamics or powerful bass. But every cut is a master class in superb recording (and from the 1970s no less). Light organ, pan pipes, harpsichord, and vocals all sounded sublime on the Silvers. The recording was also true to its title. The depth on virtually all of these cuts was superbly rendered by the Monitor Audio Silver 300s.

MOVIES PERFORMANCE

My below-300Hz room EQ for the Silvers on music worked well, but measurements showed that in this setup it still hadn't fully eliminated my room's 100-200Hz issue (see Fig. 2 in the Test Bench). There was still a trace of excess warmth on a few of the bass passages. For movies I therefore went a step further and selected Audyssey's Flat option, which had little effect on response above 300Hz, apart from a slight elevation in mid to high treble. The uptick in highs wasn't objectionable as it occurred in a range where the treble was already rolling off and I was able to almost totally eliminate it by setting the AVR's treble control to –2dB. The main upside to Audyssey's Flat setting was that it completely flattened the 100-200Hz region (see Fig. 3 in the Test Bench).

That done, movies sounded compelling on the Silver system. I often reach first for *Oblivion* as a go-to UHD Blu-ray because I know it almost by heart. While I can't say for certain that the Silver 7G system equals the performance of a setup with my Monitor Audio Silver 10/Silver C350 combo (a direct A/B of two surround setups is next to impossible), it sounded remarkably close to my recollection of that larger system. The Silver 7G ensemble nails the explosive dynamics as the music crescendos under the title in the opening scenes, again as Jack fires up his jet copter, and even more as he flies through a violent thunderstorm.

Encanto is a very different experience. If it's music that ultimately sells *Oblivion* (for me it is), *Encanto* would (apart from its superb animation) have little to hold my attention without its music, which was lushly reproduced on the Silver 7G system, with the all-important dialogue coming across crystal clear. Ditto for the music's lyrics, which include some extremely rapid passages along with a few lines that barely rise above a whisper. Clarity on all of this was child's play for the Silver 7Gs.

It's been years since I watched *Apollo 13*, but it remains an unforgettable experience. The Saturn launch is always a trip, and the Silver 7Gs didn't let me down. Between the rush and growl of the rocket engines, the clanking of the launch machinery and, most compelling of all, one of the finest musical fanfares that the late James Horner (or anyone) ever wrote, the sequence is impossible to resist. It has never sounded better in my room. As the capsule makes its perilous descent toward the Pacific, the ending isn't quite as gripping as the launch, but as heard on a system such as the Silver 7G, evokes a swell of emotion.

CONCLUSION

I have reservations about the Monitor Audio W-12 subwoofer (unless you have a small room and a generous budget), but none at all about the other Silver 7G models reviewed here. Whether you're listening to music, watching the latest blockbuster film, or both, you're unlikely to do much better without spending a ton more.

The Verdict

Monitor Audio's longstanding reputation of delivering great sound and solid value remains very much intact with the new Silver 7G speaker series.

HISENSE PX1-PRO 4K DLP LASER TV PROJECTOR

Laser Trifecta

By Michael Hamilton

RATING

PERFORMANCE ★★★★½

FEATURES ★★★★½

ERGONOMICS ★★★★½

VALUE ★★★★½

HISENSE IS known by *Sound & Vision* cognoscenti as a brand taking ambitious steps to spotlight itself as an innovator in leading-edge television technologies with pricing it terms affordable. For those who do not peruse our pages, the Hisense name may be more closely identified with refrigerators and other home appliances. But as a manufacturer in the consumer electronics space, especially one in the business of making flat-panel televisions and projectors, you can legitimately claim to "have arrived" when your products occupy rack space in Costco alongside the best-known brands in TV.

In addition to offering a full range of flat-panel sets, China-based Hisense has been a longstanding proponent of ultra-short-throw (UST) projectors—a.k.a. "laser TVs"—having done much to elevate the category here and in the Chinese market where this technology rules supreme for its ability to deliver cinema-sized entertainment without the complexity of having to mount a projector on the ceiling. In 2018 we reviewed one of the brand's first models—simply called the Hisense Laser TV—and were impressed enough to award it a Top Pick, though at $10,000 it wasn't exactly a mass-market product. (The same can be said of the $25,000 Sony VPL-VZ1000ES we reviewed in 2017.) In recent years, we've also reviewed UST projectors in the $2,800 to $6,000 range from BenQ, Epson, Vava, and LG with mixed results.

Today, Hisense has nine UST projectors in its Laser Series, all but two of which include a screen. The PX1 and its big brother, the $3,500 PX1-Pro TriChroma Laser Cinema—the subject of this review—are offered solo, making the screen an à la carte selection. The PX1-Pro is designed to be used (ideally) with an ambient-light rejecting (ALR) screen from 90 to 130 inches (diagonal) and is uniquely equipped with a motorized focus assembly to ease setup. Though the screens accompanying Hisense Laser TVs bear the Hisense name, the company currently has no plans to offer them separately but was kind enough to provide a 100-inch (diagonal) 0.4-gain ALR screen with our test sample (the model it bundles with its L9G Laser TV).

The PX1-Pro is reasonably compact and has a nice sense of style with a slate gray finish that helps make the unit disappear when it's lights out and lasers on (a far cry from the white lighthouse-beacon casings found on some competitive models). A perforated plastic grill spans the projector's 20-inch-wide facade, concealing a 30-watt speaker system designed to provide "Dolby Atmos sound." On the far left, the silver Hisense badge doubles as an LED power indicator (which can be turned off in the menu) and sits just above the system's infrared (IR) remote control sensor. A silver ring on the far right side serves an unknown purpose (aside from being stylish and becoming distractingly highlighted by the slightest hint of stray light).

The PX1-Pro has a built-in ATSC 1.0 TV tuner for receiving off-air broadcasts.

The topside of the PX1-Pro is equally spartan with a solitary power button in the front right corner and a beveled cavity for the projector's lens assembly. A pair of eye-protection sensors stand guard at either end of the cavity, ready to spring into action if someone (or something) gets too close to the laser light beams exiting the projector. (Hisense issues a very clear warning in its Quick Setup Guide: "Do not look directly at the lens when this device is on!" Ya think.) When an obstruction is sensed, the image slightly darkens and an onscreen message cautions that light output will

be temporarily disabled after a 5-second countdown. When the sensors deem it safe, the image resumes. This feature is defeatable in the menu but if you have children, the best practice is to leave it enabled. One could argue that the safeguard doesn't go far enough to prevent eye damage (why the 5-second shutdown delay?) but my guess is that the lawyers have already earned their retainers arguing this one—after all, somebody made swallowing detergent pods "a thing"...

Except for a USB port on the left side of the projector, all of the PX1-Pro's connectors are arranged in a small cluster on the left side of the rear panel. Among them are two closely-spaced HDMI 2.1 ports, one with enhanced Audio Return Channel (eARC) capability, an Ethernet (LAN) connection, and two USB ports (one 3.0 and one micro 2.0 for service). Digital audio escapes via an optical output, while analog signals exit through a headphone-friendly 3.5mm stereo connector. A 75-ohm Ant(enna)/Cable jack is also provided for the onboard analog/digital (ATSC 1.0) TV tuner along with a home automation/Control4-compatible serial port. The projector supports the Google Assistant and (Amazon) Alexa voice platforms in addition to having onboard Wi-Fi and Bluetooth.

The bottom of the chassis is equipped with four leveling feet for quickly squaring the image with the screen, should the process be performed manually, and a wrench is included for making fine pitch and yaw adjustments. Hisense also provides a QR code you can scan on your phone to initiate an Auto-Geometric set-up feature, but hands-on adjustment using onscreen up/down/left/right buttons will deliver the best results.

The heart of the PX1-Pro is a triple-laser light engine comprising red, green, and blue lasers with a specified brightness of 2200 lumens and an anticipated lifespan of 25,000 hours. Hisense says the projector is designed to not only fully encompass the BT.2020 color space but to exceed it by 7%. Ambitious, indeed. The PX1-Pro is not a native 4K projector but rather mates a Texas Instruments DLP chip with a super-fast four-way pixel shifting mirror to fool your eyes into thinking they're watching native 4K—and convincingly so.

Hisense replaces the sequential color wheel found in most single-chip DLP projectors with its TriChroma laser trifecta in an effort to reduce or eliminate rainbow artifacts, while considerably extending the color gamut. I suppose I'm on the lucky side of this equation, as nothing ensnared my attention, but sensitivity to the "rainbow effect" varies from person to person so you'll have to make your own judgement call. Despite electronic focus, which in this implementation is pokey but controllable from your seat and extremely effective, the lens has a fixed throw ratio of 0.25:1 and no motorized zoom or lens shift. Digital geometric adjustments include Keystone correction, which I don't recommend using—one wrong click can really screw up the image.

SETUP

The PX1-Pro projector arrived a week before the screen so I used a white wall as a stand-in—not to watch movies but to set up Wi-Fi and check for software updates. The unit displayed an up-to-date status with no indication (as of late August) that the Dolby Vision high-dynamic range (HDR) upgrade promised for the summer had yet been activated. The menu is logically arranged and easy to navigate using the supplied remote—there's even a full suite of calibration controls (more on those later). Using the microphone built into the handset to summon Google may be a bucket-list worthy pursuit for some but I skipped voice control in favor of button pushing.

Hisense touts the PX1-Pro as a streaming projector and that it is, using its Android TV smarts to provide access to Disney+, HBO Max, Hulu, Prime Video, YouTube, Showtime, Pandora, and Sling TV. Oddly, Netflix is left to peer longingly through the fence, which means fans of *Formula 1: Drive to Survive* will need to find a workaround. Unusual for a projector but nonetheless curiously convenient, I connected an indoor HDTV antenna to the PX1-Pro's antenna/cable input, tasking the tuner with seeking digital channels in the area. From my perch on the seventh floor of a Madeira Beach high-rise overlooking the Gulf of Mexico, the tuner reached across the bay into Tampa and registered a respectable 44 channels. Perhaps of note, the tuner is based on the original ATSC 1.0 digital TV standard, not the newer "NextGen TV" ATSC 3.0 standard, which supports 4K broadcasts (where available) and other internet-based features. With the PX1-Pro still projecting images onto the wall, I perused channels I recognized, while scoffing at You Tube "influencers" who proclaim you can have an eminently satisfying experience by merely pointing your projector at the wall.

At a Glance

- ⊕ Ultra-wide color gamut
- ⊕ Terrific lens for impressive focus
- ⊕ Built-in (ATSC 1.0) tuner
- ⊖ No dynamic tone mapping
- ⊖ Netflix not part of the Android bundle
- ⊖ Tuner doesn't support ATSC 3.0

Price: $3,500

Hisense-usa.com

Test Bench

Measurements were made using Portrait Displays CalMAN software, together with a NIST-certified Minolta CS-200 reference colorimeter, Murideo/AVPro Edge 4K Fresco Six-G, and 8K Seven pattern and video file generators, supported by Bullet Train 48Gbps HDMI cables.

I took two sets of measurements with the PX1-Pro at default settings. The first set was directly from the screen, with the second collection using a Labsphere USRT-99 Spectralon Reflectance Target placed on a tripod directly in front of screen center. (Many manufacturers use Labsphere targets as a baseline parameter for a color neutral, Lambertian reference with 99% reflectance at any measurable angle). What was unveiled didn't surprise me, as I have found this phenomenon to exist with all ambient light-rejecting (ALR) and light directing (UST) screens of any recipe. While they admirably steer away ambient light as intended, most also absorb a fair amount from the projector in the process. One example of this reduction in light delivered back to the viewer is found in comparisons of the PX1-Pro SDR Standard Picture mode. From the screen, with a 100% white full field, the reading was 33 ft-L, however as measured from the Labsphere target, it was 92.2 ft-L.

The Hisense 100L9G-CINE100 screen exhibited splendid color uniformity, with a positively ruler flat gamma response of 2.19 (with a 2.2 target). Additionally, this combination exhibited a remarkable freedom from hot spotting, indicating to me the lens Hisense is using not only renders fine detail gradients faultlessly with hyper-precision as pointed out in the main text, but it also manages to disperse laser light in a tightly controlled fashion.

The projector's maximum full-on/full-off SDR contrast ratio was measured in Vivid mode, with all settings at factory default. Black tallied 0.033, using a 1IRE, 10% window to coax measurable illumination out of the PX1-Pro. At 0IRE, nothing leaked from the light engine, a big hat tip to the Hisense engineering team. Peak white clocked in at 33.410 ft-L, for an SDR contrast ratio of 1012:1. Full-on/full-off HDR contrast in HDR Theater mode, with all settings factory defaulted, produced a slight uptick to 1039:1.

Prior to calibration, the Hisense's grayscale showed blue to be dominant with an even-handed slight deficiency to red and green. Selecting Theater Day mode instead of the default Standard mode improved grayscale tracking considerably, while a calibration using the RGB Offset/Gain adjustments in the two-point White Balance menu yielded a maximum 1.520 Delta E at 100IRE, with an excellent 0.66 average. (Delta E is a figure of merit indicating how close the color comes to the standards, either D65 for the white point or the color coordinates for each of the primary and secondary colors that define the color gamut under test. Values below 3 are generally unnoticeable.)

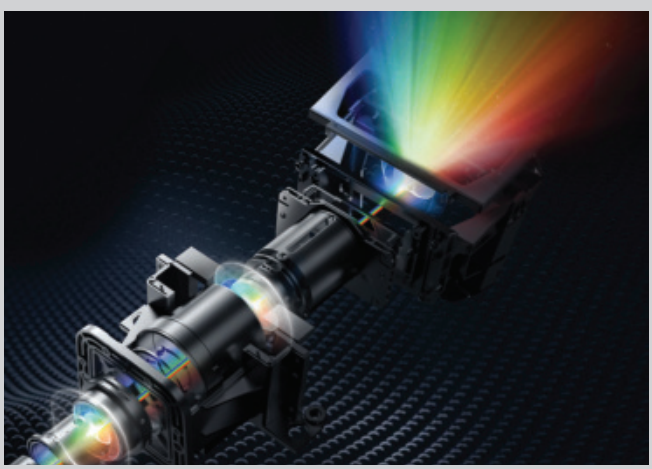
The lasers pushed colors way out past their boundary points, and while some calibrators might be tempted to pull those in with CMS adjustments, that would only serve to collapse saturation points ranging from 20% to 80%, essentially "midrange" or flesh tones. Instead, I used the main color control in the menu to reduce overall saturation from the default of 50 to 43. The 20%, 40%, and 60% sweep points fell into place, with 80% points tugging a bit out toward the perimeter. While not ideal, per se, it's better to have *more* available colors than less. With CalMAN's Color Checker, across the 47 points, the Delta E was 1.6, with the majority falling under 1%, but heavily skewed by red, blue, cyan, and magenta escaping outside the "color triangle."

With respect to light output, with the contrast control at the default setting of 50 (or higher), the ISF White PLUGE pattern indicated clipping from 235d and above. The Dynamic Range pass confirmed the PX1-Pro was clipping all three color channels at exactly 100IRE. With contrast reduced to 30, boxes up to 251d were clearly visible. This accounts for the low (for a flat panel, but not necessarily a projector, especially a UST projector) calibrated contrast ratio of 562.1. With Full On/Full Off, the numbers look more impressive, but nobody wants to watch an image that is potentially missing a raft of information, or has a stifled dynamic range. At 18.6 ft-L (or 64 nits) as measured from the screen, in a conducive viewing environment, the image lacked nothing from my review seat.

HDR10 peak light output was 24.037 ft-L in HDR Theater mode with the contrast control at the 50 default setting. Adjusting contrast higher, even to the maximum of 100 did not raise the measurement a 1/1000th of a percent.

Specs

DIMENSIONS: (WxHxD, Inches) 20.5 x 6.3 x 12.8
WEIGHT: (pounds): 20.3
A/V INPUTS: HDMI 2.1a (2, 1 with eARC)
AUDIO OUTPUTS: Optical digital, 3.5mm stereo analog
AUDIO POWER: (watts) 2 x 15
OTHER: 802.11ac Wi-Fi, Bluetooth, Android TV OS, USB port (2), Ethernet port, RF digital/analog input, analog NTSC/ATSC 1.0 digital TV tuner
ILLUMINATION METHOD: Independent RGB lasers
LIGHT SOURCE LIFE: Up to 25,000 hours



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WHAT OBSESSION SOUNDS LIKE

HISENSE PX1-PRO 4K DLP LASER TV PROJECTOR

You guys *have your eyes painted on*.

When the screen arrived, I mounted it on the wall, 30 inches off the floor, and used a Pelican equipment case to lift the projector to a height of 18 inches with the lens positioned at the center of the screen. Following guidelines in the owner's manual, I positioned the front fascia of the projector 2 feet from the wall. Of course, these measurements will vary depending on your screen size, so be sure to confirm your setup before buying furniture to support the projector.

HD/ SDR PERFORMANCE

I started with some preliminary daytime viewing, while toggling through the projector's picture modes to start the calibration process. With Color Temp set to Low, the Theater Day (Rec. 709) mode was closest to the D65 reference white point. With only minor changes (see Test Bench), grayscale was respectably linear and gamma tracked ruler flat to my 2.2 target. The screen tamped light down somewhat (as expected with an ALR screen) but I was pleased with the measured results.

It was time to see how the Hisense projector/ALR screen combo stacked up against my 65-inch OLED TV in daytime viewing. My regular HD/SDR benchmark, the Formula 1 World Championship, was in the midst of its regular summer standstill, so I kicked back and started channel surfing, stopping on a Yankees/ Cardinals game at St. Louis. Watching a few innings in near twilight proved the PX1-Pro to be a capable performer, able to deal amicably with varied and complex motion, while adequately handling subtle shadow gradients and rendering textures such as team emblems raised against uniform backdrops with sculpted detail.

On a subsequent day, an endearingly energetic Little League Baseball World Series contest confirmed my earlier impressions. Though I did most of my viewing in the early evening, the calibrated Theater Day mode produced a highly appealing image with natural skin tones—so much so that in an uncanny moment of self-awareness I realized I never once reached for the remote to change a setting. Audio quality was adequate, with the onboard five-band EQ providing for a slight improvement in intelligibility, but I would continue to toss coins in a jar for that soundbar you've had your sights set on.

ULTRA HD / HDR PERFORMANCE

Moving on to a more critical assessment, I turned to my Fire Cube TV to stream the Hulu original series *Only Murders in the Building*, where three strangers with an obsession for the same true crime podcast find themselves swept up in a murder drama unfolding inside their exclusive apartment building on Manhattan's Upper West Side. Starring Martin Short, Steve Martin, and Selena Gomez, the show is deftly crafted, witty, and fortified by highly polished production quality. I settled on (and calibrated) HDR Standard as my preferred viewing mode, and when done, "cheated" by setting Active Contrast to Medium to add a bit more oomph to the tone mapping. The PX1-Pro crafted an addicting HDR palette, often forcing me to concede to yet one more episode. Whether chic, flamboyant, or frumpy, colorfully complex wardrobes accented each character's eccentricity. Creative set design and costuming on shows like this are finally delivering the HDR we were promised, accentuating depth, dimension, and mood up front, and not relying on post-production dial-turning to aimlessly miss the mark. The laser-equipped PX1-Pro takes full advantage of these opportunities, faithfully communicating the director's intent.

On occasion I detected a hint of laser speckle in a few scenes where deeper blacks would have been preferred. Still, at the close of each viewing session, I retired feeling the PX1-Pro had enhanced the story being told. For a textbook-style analysis of image fidelity, I connected a Murideo Seven 8K generator and sampled video files acquired in 6K and mastered to studio quality 4K/HDR10. Day and night urban scenes from Chongqing, China and London, England squashed any doubts I may have had about the ability of the lens Hisense paired with its TriChroma light engine to produce precisely finessed razor-sharp images.

CONCLUSION

The Hisense PX1-Pro provides exceptional performance at a price that seems inexplicably low given the technology at play, which is welcome news for videophiles. However, there are a few caveats. I can easily endorse this projector as long as we acknowledge that UST technology is not universally interchangeable with flat-panel TVs. While so-called ambient-light rejecting screens can work remarkably well in challenging daylight settings, the laws of physics remain undaunted. The PX1-Pro delivered image quality I could embrace when the ambient light in my room was subdued. That's not to say the screen didn't do its job—any equally rated ALR screen would yield a similar result—but for daytime viewing the setup worked best in moderate (or less) ambient light, not sunlit or otherwise bright conditions.

I will state, and emphatically so, the PX1-Pro delivered reference-level quality with network broadcasts and, with appropriate ambient-light conditions, did what every high-quality display should do with dramatic Ultra HD HDR material: step aside, while you're swept away, lost in new adventures. Whether casual viewing or in serious scrutiny, I never felt inclined to return to my OLED TV. My recommendation is to reward yourself, and the PX1-Pro, with a screen designed to work effectively in your viewing environment and enjoy life-sized action delivered with a precision only lasers provide.

The Verdict

With its onboard streaming capability and TV tuner, the Hisense PX1-Pro comes about as close as you can to the proverbial "Home Theater in a Box" concept—one that that lets you savor big-screen fun without leaving home.

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DEVIALET DIONE ATMOS SOUNDBAR

Soundbar Sensation

By Rob Sabin

RATING

PERFORMANCE ★★★★★

FEATURES ★★★★½

ERGONOMICS ★★★★½

VALUE ★★★★★

FROM TIME to time I get to review an audio product that is so thoroughly engineered, so cutting-edge and so high performing that it leaves me in awe. And let's be clear, after three decades of doing this, I'm not easily impressed. But I'll tell you here that the subject of this review, the $2,400 Devialet Dione, is hands-down the best all-in-one soundbar I have ever heard, and undoubtedly one of the two best soundbars currently available. We'll get to that later, but for now, let's take a closer look.

If you're familiar with Paris-based Devialet you've probably seen their Phantom, a futuristic wireless speaker that puts out more volume and bass than anything its size. (If not, pay a quick visit to devialet.com.) The company is known for unique style and innovation, holding over 200 patents on technologies that squeeze audiophile sound out of compact, easy-to-use lifestyle products.

It's not surprising, then, that when they set out to create a subwoofer-less soundbar, they threw in everything, including the kitchen sink. Technically, the Dione is a discrete 5.1.2-channel bar with 17 drivers, including upfiring units for Dolby Atmos front height channels. It has an imposing but friendly industrial design with dimensions of 47 x 3.5 x 6.5 inches (WHD)—slim enough to fit easily below the screen of a table-mounted TV, but unusually deep for reasons that will become apparent.

The Devialet Dione packs a serious punch thanks to its 17 drivers.

The most obvious feature is the orb-like pod that houses the center-channel speaker; Devialet actually calls it the Orb. This would normally prevent wall-mounting without the bar protruding awkwardly from the wall since those height and center channel drivers need to be properly positioned. But the Orb can be physically rotated to face forward when the bar is reoriented for wall-mounting, and an internal gyroscope detects the position and reassigns the other drivers as needed for the new configuration.

About those 17 drivers: nine are 1.6-inch full-range aluminum domes and eight are 5.3-inch, high-excursion racetrack (oval) woofers. With the bar resting flat, you have a left- and right-

channel driver firing forward from either endcap, each of which works in conjunction with a side-firing surround driver to expand the soundstage and a pair of upfiring height drivers. The Orb houses the same single aluminum-dome 1.6-inch driver plus a pair of small passive radiators.

The eight woofers that make the Dione a true standalone soundbar are in front/rear-firing pairs placed in vibration-cancelling opposition on either side of the Orb (four woofers per side). Each foursome enjoys its own sealed compartment and projects bass from both the front and rear baffles. As an aside, I recently tested the B&W Panorama 3, a less-pricey ($999) attempt at a subwoofer-less Atmos bar. It was impressive, but lacked bass below 60Hz, despite having two 4-inch woofers and a large cabinet cavity to reinforce the bottom end (which set nicknacks on my credenza in motion when I played bass-heavy soundtracks). By comparison, the Dione's woofers delivered all of their energy out into the room without a hint of shake, rattle, or roll.

And, wow, did they deliver. The bar is rated down to 24Hz, and test tones revealed bass at that frequency was barely 6 or 7dB down from where it measured at 100Hz. There were a couple of bumps and gullies in my room—a little spike around 60Hz and a little dip at 40Hz. But even when fed a 20Hz tone, the Dione was still pumping clearly audible bass into the room. I was astonished.

The 950 watts of amplification and processing is provided in part by a custom chip combining several patented technologies. ADH (Analog Digital Hybrid) is said to take efficient class D amplification and pass it through a class A-like stage designed to "restore and correct" the signal. SAM (Speaker Active Matching) provides signal monitoring and limiting to eek max performance from the drivers and prevent distortion. Magic Wire describes an unconventionally short signal path between the onboard DACs and amplifier intended to help keep the signal clean.

ADE, or Advanced Dimensional Experience, is beamforming technology designed to project well-defined virtual speakers or sound objects into the room. The Dione is further enhanced by AVL (Adaptive Volume Level), an interesting take on dynamic equalization. AVL monitors the signal and mitigates undesirably wide level differences among individual soundtrack elements, the kind that cause excessive riding of the volume control or a loss of dialogue intelligibility when sound effects are fighting with the center channel. The bar still tracks subtle dynamic build and can bust out when needed on loud peaks, but the listening experience is noticeably enhanced with clearer dialogue, improved etching of individual effects, and smooth-but-not-excessive volume swings.

Devialet provides a few simple connections in a recessed area on the bottom of the soundbar (or back if it's going to be mounted on the wall). There's a single eARC-equipped HDMI port (which is also required on your TV to get a lossless Atmos signal into the bar), an optical input for non-HDMI sets, and an RJ45 network port for use in lieu of Wi-Fi. Unlike with some soundbars, you can connect a second source to the optical input and select it as a separate option from the HDMI port; it's not either/or. In addition, the Dione supports wireless connectivity via Apple AirPlay 2, Bluetooth, and Spotify Connect, and will recognize a UPnP (Universal Plug and Play) server on the network.

Putting aside its eyeball protrusion, the Dione's cabinet is a perfect cuboid—like the *2001: A Space Odyssey* monolith dropped on its side. An inner cage made of anodized aluminum provides rigidity and contributes to the bar's solid feel and weight, and all of the drivers are concealed by dark gray fabric grilles on the front and sides and top of each endcap. The rest of the top is a composite plastic panel that makes a solid thud when you whack it; there's a small strip of touch buttons on the right side for volume up/down, play/pause, input selection, Bluetooth pairing, and turning off the four integrated microphones used for system calibration (more on that shortly).

At a Glance

- \+ Stupendous bass without an external subwoofer
- \+ Outstanding timbre and dynamics
- \+ Easy to use via HDMI-CEC or Devialet app
- − No remote learning for optical connections
- − No voice integration
- − No DTS decoding

Price: $2,400

devialet.com

DEVIALET DIONE ATMOS SOUNDBAR

Of course, you'll rarely use those onboard controls since the Dione is designed to wake up and automatically track volume commands from the remote for your TV or set-top-box (courtesy of the HDMI-CEC protocol, which enables multiple devices to be controlled from one remote). Unfortunately, you lose this convenience if your TV lacks an HDMI port and you have to use the optical connection. You can, however, control the Dione using the versatile Devialet iOS/Android app or the optional Devialet Remote, a stylish tabletop controller that costs $200.

Additional control and setup functions are also handled through the app, which I found easy to navigate and reliable in day-to-day use. Along with volume adjustments, it helpfully confirms signal type: Dolby Atmos, multichannel or stereo Dolby Digital, or LPCM (there's no onboard DTS processing). The app also allows you to choose sound-mode options, which in Goldilocks fashion are neither too plentiful nor missing anything you'll want. Movie mode upmixes stereo and non-Atmos multichannel music or soundtracks to 5.1.2. Music is a two-channel native stereo mode that disables the height drivers. Voice adds crispness for news and podcasts, though I never felt the need to use it because the Movie mode was so effective at isolating dialogue. If you select one of the wireless music inputs, like AirPlay or Bluetooth, the sound mode options become Music, Voice, or Spatial, the latter of which applies a different algorithm than Movie to upmix to 5.1.2 (more on that later).

The Devialet app can also be used to select inputs and perform other functions. You can choose the default listening mode for each input, activate a Night mode that does an excellent job of attenuating bass, deactivate the room-calibration microphones, and set the status LED to either turn off or automatically dim based on an onboard sensor's reading of light in the room. You can also exercise multiroom control over any Devialet Phantom or other AirPlay 2-compliant wireless speakers on the network.

What you won't find in the app are any adjustments for EQ or speaker levels. I might normally cite this as a negative, but like the Sonos Arc—which benefits from in-room auto calibration—the Dione uses an app-activated calibration routine that relies on test tones picked up by mics in the soundbar to optimize its sonics. It's a super-quick procedure, unlike the Sonos Trueplay routine, which involves walking around the room and using the microphone in your mobile phone. However, despite having onboard microphones, the Dione lacks compatibility with the popular voice-based services you find on the Arc and other soundbars, so you can't connect with Alexa or Google Assistant. On a similar note, there's no way to add ambience enhancing rear-surround speakers to the Dione, which would be a nice option for such a premium system, even if it is at odds with the notion of an all-in-one solution.

Setup was a simple matter of plugging in Dione, downloading the app and hitting a button on the home page to detect the new device. It connected quickly and, once the app confirmed the positon of the soundbar, guided me through the auto-calibration routine. Done.

Specs

DRIVERS: 1.6-inch full-range aluminum dome (9), 5.3-inch high excursion aluminum racetrack (8)
AMPLIFIER: Class-D/class-A hybrid, 950 watts total
CONNECTIONS: HDMI eARC, optical digital input, RJ45 Ethernet
WIRELESS: Apple AirPlay 2, Spotify Connect, Bluetooth, UPnP
ACCESSORIES: HDMI cable, optical cable, power cord, wall-mount template and hardware
DIMENSIONS (WxHxD, inches): 47 x 3.5 x 6.5 inches
WEIGHT (pounds): 26.5

PERFORMANCE

The first thing you notice when listening to the Devialet Dione is the quality of the bass. It's not overbearing or boomy, it's just *present* in the most natural sense of the word. With music you hear well-defined, tuneful bass notes that reach low but never overexcite the room no matter how loud you go. Kick drums, electric and double bass lines, or low-end EDM synth notes work in perfect balance with the rest of the music. And with soundtracks you not only feel the impact of explosions and other rumble effects but hear bass elements in the score that might otherwise be lost in the chaos. I can't even begin to describe how this changes things. While watching a mundane home renovation show on HGTV, I was surprised to hear well-defined bass in the low-level, interstitial music beneath the voice narration. There's a fullness to everything you watch that just enhances the experience.

Moving up from the bottom, the bass is joined by an extremely open, unveiled midrange and high end I'd characterize as exceptionally smooth and highly detailed, but without any of the edginess or hyper-etched upper-frequency exaggeration you sometimes get with aluminum domes. All of this combines with exceptional imaging that, thanks to the side-firing and height drivers, goes wider than the bar, up to the ceiling and out into the room.

For most of my listening, which included stereo and Dolby Atmos music tracks streamed from the Tidal app on my TV, I chose the Movie mode over the stereo Music mode. It was always more open-sounding, with a natural but expanded soundstage in both height and width, and it rarely suffered from the reverb effect on vocals you hear with some preset listening modes. There was little to no loss of focus on centered

voices or instruments, and little of the echo-chamber effect that can occur when vocals are partially assigned to speakers beyond the center channel. On the other hand, the Spatial mode, which replaced the Movie mode when I was listening to wireless streams from my phone over AirPlay 2, *did* suffer from these deleterious effects. It expanded the image more aggressively than the Movie mode but pushed centered vocals and soloists too far back in the mix. I much preferred the two-channel Music mode, despite its tighter soundstage, when listening to wireless music sources.

Even with plain stereo tracks, the Movie mode's excellent staging made for superb listening, especially on tracks like "Moten Swing," the lead cut on *Count Basie & His Atomic Band, Complete Live at the Crescendo 1958*, a strikingly natural and highly dynamic live night-club recording. The Dione nailed everything from the low-level atmospheric crowd chatter and clinking glassware that opens the track to the incredibly well-projected piano and powerful horn blast that leaps out a minute in. I loved listening to bigger-than-life pop vocals—tracks like John Mayer's "Gravity" or Maroon 5's "Sunday Morning"—that projected a large, well-embodied voice out into the room.

Atmos music was superb. The remix of The Doors' "Riders on the Storm" exhibited a convincing cover of rain above Jim Morrison's large and well-projected lead vocal with perfectly metallic and detailed cymbal taps and an incredibly well-defined bass line from Ray Manzarek's keyboard. Another Atmos track, the John Williams orchestral theme *Obi-Wan*, offered surprisingly smooth massed strings mixed with delicate, pensive horn accompaniment and subtle dynamic pacing.

Movie soundtracks were outright balls-to-the-wall fun on the Dione and extraordinarily detailed, balanced, and dynamic. There's a scene near the beginning of *The Batman* where the Caped Crusader shows up on a dark, dank subway platform to deliver some vigilante justice to a gang of thugs.

The rain effects in this Atmos soundtrack floated well above the screen and out into the room, and I was impressed with the natural, metallic sound of a sword being drawn from its sheath. Once the combat began, I was taken aback by the convincing, visceral impact of clubs, pipes, and other weapons as they struck Batman's suit. The system's woofers and ample power reserves proved capable of delivering amazing dynamics and coherency. The Dione also did a great job rendering the movie's challenging, low-level dialogue and moody, strummed guitar soundtrack, and reached its volume limits with no detectable distortion or edginess, hitting 101dB peaks from a distance of about 9 feet in my room—right in line with Devialet's max sound-level rating.

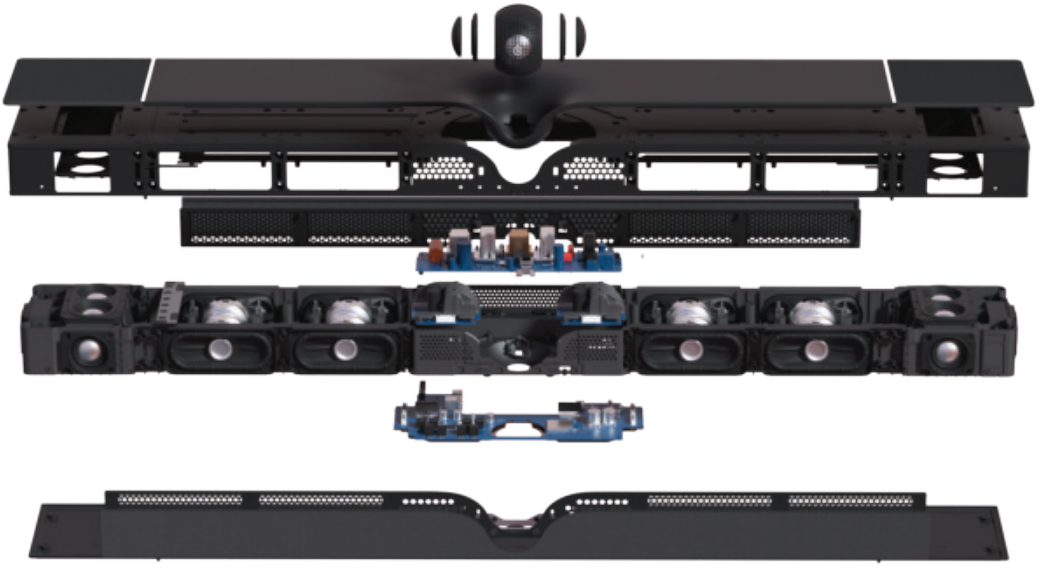
CONCLUSION

There is one other standalone soundbar—Sennheiser's $2,500 Ambeo—that competes directly with the Devialet Dione. It's a 5.1.4-channel Atmos bar that received a *Sound & Vision* Top Pick in 2019 and offers similarly impressive surround processing, kick-ass bass and dynamics, and a sophisticated auto-calibration scheme. However, its 40-pound weight and 5.3-inch height make it cumbersome to place in front of a TV, and its pedestrian looks certainly won't wow your family or friends.

By comparison, the Dione is a sexier, more attractive solution that seems to deliver most of what the Ambeo offers sonically, and does so with a mix of elegance and ease of use that won me over from the get-go. It's a truly impressive accomplishment, one that will slip seamlessly into your den or living room and expose you to creative elements of your favorite music, movies, and TV shows that you didn't know were there. If you've been listening on any other soundbar, you won't believe what you've been missing. And if you're wondering if it's worth spending $2,400 on a soundbar, well, this time I can say yes. If you have the budget and care enough to fully engage with movies and music, the Devialet Dione is highly recommended and money well spent.

The Verdict

You'll pay for the privilege, but Devialet's Dione lives up to the full promise of an audiophile-quality, all-in-one soundbar.



KEF LSX II WIRELESS SPEAKER SYSTEM

Small Speakers, Big Sound

By Daniel Kumin

RATING

PERFORMANCE ★★★★½

BUILD QUALITY ★★★★½

ERGONOMICS ★★★★½

VALUE ★★★★½

KEF'S LITTLE LSX II exudes quiet sophistication, which begs a question: Is it a lifestyle speaker or an audiophile speaker? It's both, actually—and why not? The cantaloupe-sized wireless speaker is the British audio titan's latest self-powered "just add music" solution and it packs a punch, drawing on extensive signal processing to optimize performance, with the goal of delivering near full-range reproduction to a very high standard. The system also boasts a proprietary app that integrates setup, control, and streaming from virtually every important service—including Tidal, Spotify, Qobuz, and Amazon Music—or your own file- or disc-based music collection.

The LSX II uses the latest generation of KEF's signature Uni-Q driver.

If you're thinking you've seen this speaker before, you're right—it's a dead ringer for the original LSX the company introduced almost five years ago. Though the LSX II looks the same as its predecessor, KEF has upgraded its internal electronics and user interface while adding HDMI/ARC (Audio Return Channel) and USB ports to, as they put

it, "deliver more balanced sound in higher resolution with all-inclusive connectivity." Tellingly, the speaker lacks the Metamaterial Absorption Technology (MAT) introduced in the larger LS50 Wireless II speaker I reviewed last year (June/July 2021 issue); MAT uses a labyrinthine structure to absorb unwanted sound from the rear of the tweeter in an effort to produce more natural sound. Whether this omission arose from cost and size constraints or fear of stealing thunder from the considerably more expensive LS50, I cannot say.

The LSX II is offered in a muted rainbow of satin finishes: white, black, red, blue, and a tan, the latter a fabric-clad special edition. We got white—boring but handsome—and, at roughly 9 x 6 x 7 inches apiece, these speakers are small enough to put just about anywhere (even if they are comparable in size and weight to a prize example of the aforementioned member of the *cucumis* family). The fit and finish is impeccable, with radiused corners and a carefully considered surface texture contributing to a subtly Bauhaus-on-the-Thames feel. At the core of each speaker is the latest generation of KEF's signature Uni-Q coincident driver, in which the tweeter resides in the throat of the woofer, whose rear output flows through a tapered port in the back of the cabinet.

Both speakers are identical until you turn them around. The main unit, which houses the digital signal processing (DSP), has an oblong connection panel with optical, USB-C, and wired-Ethernet (network) inputs, an analog stereo (minijack) input, an RCA subwoofer output, and the HDMI/ARC port noted earlier. (A second Ethernet jack, labeled "To P/S," which we'll get to later, is something most users won't need.) Three small buttons for pairing and reset functions run along the top of the panel and a Euro-style three-prong power receptacle sits at the bottom. (You didn't think these speakers were *completely* wireless, did you?). Apart from the port, the other speaker has only that secondary Ethernet port (patience!), an AC power receptacle, and a single pairing button.

SETUP

Setting up the LSX II system is pretty much a matter of unpacking the speakers and plugging them in. Before I move on, though, a brief shout-out to KEF for its cardboard-origami packaging: If you can find a more clever, eco-friendly packing design—Apple aside—I'd like to see it. But what else should we expect from a country whose biggest holiday is Boxing Day?

Of course, once the speakers are powered up, you have to download the KEF Connect app (iOS in my case) and follow prompts on the screen of your phone or tablet to acquaint the LSX IIs with your Wi-Fi network. (You can set up the speakers with a wired connection, but why would you want to do that? I'll have more to say about that later.) On my first go-round, the app failed to find my network so I hit the reset button. The second time was the charm: with a screen press and swipe the deed was done.

A simple EQ option is provided along with a more complex one via "Expert" mode. The former walks you through a series of parameters—stand or desktop, distance to wall, acoustics (damped/moderate/lively), room size—and adjusts bass, mid, and treble contours accordingly. Since I am (supposedly) an expert, I dove right into the Expert mode, which provides the same contouring functions but with a bit more control and feedback. The app also provides a Phase Correction toggle, a feature that, surprisingly, is not addressed in the manual. Since Google is my friend, I found a KEF blog entry referencing the feature and will have more to say about it in a moment.

Which brings us to the sound. I set the KEFs on 33-inch stands in the positions usually occupied by my everyday three-way stand-mount speakers: about 7 feet apart and 9 feet from my audition spot. (KEF offers matching stands for the non-trivial cost of $350/pair along with similarly spendy wall-mount brackets and desktop stands that go for $230 and $180, respectively.)

Once the speakers were set up, I spent a couple weeks listening casually to music and TV audio and left the speakers playing Internet radio at a moderate volume overnight to cover any break-in concerns. (Yours, not mine: I'm still not entirely convinced that speaker break-in is a thing.) For most of my formal listening, I streamed a variety of music in high resolution via Tidal and Qobuz.

PERFORMANCE

When I sat down to start my audition, I was mightily impressed right from the start. Tonally, the LSX II's mapped almost perfectly to my longstanding reference speakers, the excellent, if long-discontinued, Energy Veritas 2.2 stand-mount three-ways. Male and female vocals sounded timbrally correct, with no trace of "hoo," "honk," or "cupping" that would suggest identifiable resonances. With a treble setting of –0.25dB in the Connect app's Expert mode, the top-end balance struck me as just about ideal: open, easy, and highly detailed but free of edge on brass attacks and excess shimmer on cymbals.

The low end proved eminently capable of producing a satisfying bottom with most genres of music. A typical pop recording like "Yeah" from Jackson Browne's *Standing in the Breach* (24/48 MQA via Tidal)—a track with a lot of strong content in the 50-150 Hz range—yielded solidly pitched and impactful bass lines down to around 40Hz without

At a Glance

- ＋ Highly accurate tonal balance
- ＋ Superb imaging
- ＋ Sub output for instant upgrade
- ＋ All-in-one solution with HDMI ARC for TV sound
- − Limited output in large rooms
- − No physical controls

Price: $1,400 (system)

us.kef.com

KEF LSX II WIRELESS SPEAKER SYSTEM

adding boom or muddying up the presentation. And it did so, relatively speaking, at any volume setting—from quiet background to a hard-rocking level of around "85"on the Connect app. (Above this point, music kept getting louder but lost bass balance and a bit of midrange definition.) KEF has clearly baked a degree of loudness compensation into the system's volume architecture but, unlike many loudness contours, it was never overbearing.

Perhaps the most impressive thing about the KEFs' sound is its versatility. No matter what I cued up, the sound was clear, detailed, and spatially distinct. A track like "Good Morning Little Schoolgirl" from the classic *Folk Singer* album by the late great Muddy Waters (MQA via Tidal), which is recorded like an old-school jazz session with Muddy's guitar panned hard right, drums left, and bass and vocal centered, sounded uncannily present and lifelike; there's a good reason this record is an audiophile fave of decades' standing. The vocal projected solidly and dimensionally out in front of the bare-bones accompaniment, with goose-bumping presence.

A modern recording like "Temptation," from Diana Krall's *The Girl in the Other Room*—another 'phile favorite"—sounded every bit as mesmerizing. The standup bass riffing in the opening bars was well back on the stage and sounded superbly natural, tightly defined, and woody, with plenty of extension. The riff ends on a B-flat sliding down a good fifth, reaching around 40Hz with no loss of presence or pitch. Impressive.

Full-orchestra, even at middle-of-the-house concert-hall levels, was just as satisfying. A recent recording of that old warhorse, Dvořák's Symphony No. 9 (Los Angeles Philharmonic/Dudamel, Deutsche Grammophon, MQA via Tidal) sounded fresh and exciting—even if Dudamel takes the finale too fast for my taste—with well-spread imaging and sparkling clarity. The clarinet solo about two minutes into that final movement was especially notable for gleaming liquidity, spaciousness, and musical seduction. (Most warhorses reach that status because they are, at their core, truly great compositions. Exhibit A: Beethoven's Fifth.)

Which brings me to the subject of stereo imaging. The little KEFs performed the rare feat of getting out of the way of the recording engineer and producer. Studio tracks like the Jackson Browne song referenced earlier sounded close-in and spatially artificial (as expected), while live sessions like the Muddy Waters recording conveyed a believably "real" space. The same was true of close-in, live-style recordings like the Zemlinksy Quartet performing "String Quarter No. 2" (Qobuz) where the sound was arrestingly in-the-room. (If you want to hear what a classical/romantic tonal system disintegrating before your ears sounds like, you can't do better than this masterpiece.)

Like most coaxial designs—I believe KEF prefers "coincident"—the LSX II duo proved quite sensitive to placement and aim. As is the case with all horn-loaded tweeters—which is what a concentric design effectively is—the top few octaves are relatively directional because the tweeter's dispersion is shaped to a degree by the woofer cone within which it resides. Aiming the speakers directly at my listening position resulted in sound that was etched and noticeably brighter, while aiming them straight-on yielded a more natural timbral balance with a somewhat more diffuse, "spacey" presentation on material with lots of spatial cues.

I ultimately settled on cross-firing the KEFs with the sound converging on a point perhaps 18 inches in front of my head. This produced the treble balance I preferred and a stereo image that

Specs

DRIVERS: 4.5-inch magnesium/aluminum-cone woofer, 0.75-inch aluminum-dome tweeter in "Uni-Q" (coincident) arrangement
ENCLOSURE TYPE: Vented
RATED POWER: 70 watts (woofer) + 30 watts (tweeter), class-D; on-board DSP performs crossover, equalization, dynamics management, subwoofer crossover/level
CONNECTIONS: Optical, ARC-enabled HDMI, and USB-C digital inputs; analog stereo minijack input; analog RCA subwoofer output; RJ45 Ethernet port; RJ45 inter-speaker port; AC power
WIRELESS: Wi-Fi (IEEE 802.11a/b/g/n/ac, dual-band 2.4/5GHz), Bluetooth, AirPlay 2, Google Chromecast, Roon Ready, UPnP-compatible
NATIVE RESOLUTION: 24-bit/384kHz via wired network; 24/192 via HDMI eARC/coax digital, USB-C; 24/96 via optical
CONTROL: Via remote handset or KEF Connect app; reset and speaker/Bluetooth pairing buttons on main speaker
DIMENSIONS (HxWxD, inches): 9.5 x 6 x 7
WEIGHT (pounds): 15.6 (both speakers)

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was consistently precise, stable, and convincing, even if it was a bit more confined and not as deep as what I had previously heard. The speakers' ability to project an instrument or voice to a specific soundstage location and hold it there, was very impressive and its ability to paint aural architectures was absolutely top shelf.

THE OTHER STUFF

A few random points remain. First, about that "extra" Ethernet jack I mentioned earlier: the LSX II speakers, by default, link to one another wirelessly, and whatever program you feed them—regardless of source—is resampled to 24-bit/48kHz digital audio. But, if you hard-wire the speakers to one another using an Ethernet cable and those extra jacks, resampling jumps to 24/96. I'm not too proud to admit that when I switched from wireless-pairing to wired (and back), I failed to detect any difference, but hi-rez fanatics will likely prefer the latter, even if just on principle.

Getting back to the Phase Control option in the Connect app: turns out it compensates for the slight time-domain error introduced in the KEF's DSP crossover, re-aligning woofer and tweeter response to yield, at least in theory, perfect "step response"; only confirmed digital-audio geeks will know, or care, what that means. I spent a solid hour playing with this, turning it on and off in the app while auditioning various material. In this case, I believe I heard a difference with Phase Correction engaged, but it was so very slight and elusive that I hesitate to describe it, let alone state whether it sounded "better" or "worse." (If you put a gun to my head, I might admit that on some material, and only some, turning it on made midrange elements a shade clearer, or perhaps just barely more prominent.)

Next, a word for Roon-ies. KEF's marketing material describes the LSX II system as "Roon Ready," but an asterisk appends that certification is expected fall 2022. The feature was not in force during my audition period so the KEFs did not appear on my Roon page when connected via wired Ethernet, though they worked fine via "Roon Tested" Airplay 2.

Otherwise, day-to-day operation of the LSX II speaker system was a snap, whether streaming from the KEF Connect app or directly from the "native" Qobuz or Tidal apps on my iPad mini. (Though I confess this can get a bit confusing—which app is this, anyway?) Most users will be perfectly happy using KEF's app. It has all of the expected music-streaming features—playlists, "favorites," and the like—and is about as simple and intuitive as one can expect in this decidedly un-simple age. That said, I must observe that there are no physical controls on the LSX II speakers themselves apart from the pairing and reset buttons on the rear of the main speaker. So if the KEF remote—which provides volume, input, and play/pause/skip controls—is lost in the sofa cushions and your phone or tablet was forgotten at the office…

Lastly, the Connect app lacks any tone controls, *per se*. If you choose the "Expert" setup mode you can effectively adjust treble, midrange, and bass by a few dB each, but you must first dig deep into the 104-page PDF owner's manual to learn how these correlate to "Desk Mode," "Wall Mode," treble Trim, and Bass Extension; this is probably done by design to discourage ham-thumbed users from screwing up the LSX II's carefully created native balance.

Now, the little KEF *does* have a subwoofer output and built-in crossover, with controls available in the Connect app, so I had to take this for a spin. I jacked in my everyday sub—a compact, dual-8-inch design that's good to 25Hz and lower at any level I need in my room—and did a quick level and crossover setup, settling on 65Hz. The result was dramatic, just as you'd expect when you add a competent, carefully balanced sub to any set of small, band-limited speakers. The improvement was not so much in sonic character—the KEFs sounded just as clear, defined, and capable as they did without a sub—but gaining an extra octave-plus in extension and 10dB or so in useful level is transformational.

The sub-40Hz foundation in Donald Fagen's "Morph the Cat"—my go-to bass test—was fully intact with no loss in deep

grunt or pitch. And when I revisited material like Dvořák's Ninth, I was able to enjoy front-row concert levels without sacrificing one iota of full-range dynamics. If you're eyeing a set of LSX II speakers for serious, audiophile listening at lifelike volumes, consider adding a suitable subwoofer. KEF's own excellent KC62 mini-sub (April/May 2021) is an easy recommendation but it is expensive.

CONCLUSION

Don't get me wrong, KEF's LSX II speakers are impressive and eminently listenable on their own and fully up to the task of reproducing almost any music, except perhaps the most challenging EDM or organ recordings. Even "just" on their own, they deliver exceptional sound quality and do everything almost anybody needs and almost everything anybody could desire.

The Verdict

The little KEF LSX II is a remarkably capable and versatile speaker that will amaze you with big, audiophile-caliber sound.

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RATINGS
REFERENCE ★★★★★
EXCELLENT ★★★★½
GOOD ★★★½☆
FAIR ★★½☆☆
POOR ★½☆☆☆

THE BEATLES: GET BACK — COLLECTOR'S SET

Subtitle it, *Let It Breathe*. When *The Beatles: Get Back* initially aired across three consecutive nights on November 25, 26, and 27, 2021 on the Disney+ streaming platform, it was, to say the least, a cultural phenomenon. Not only did *Get Back* grant a new generation access to many of the sights and sounds required to understand the full scope of the ongoing impact of The Fab Four to this day, but director Peter Jackson's almost-8-hour docu-drama also served as a redemption of sorts for the lingering, decidedly mixed reactions to the 1970 band documentary directed by Michael Lindsay-Hogg, *Let It Be*.

The Collector's Set edition of *Get Back* is spread across three BDs, one for each designated "Part," all of it housed in an admittedly handsome, sturdy hard-shell slipcase. Shot on 16mm, the visuals are reflective of the times—filming took place across 23 nonconsecutive days in January 1969—and the color schemes and palettes mirror the many fashions of the day (Paul McCartney's Fanta-orange sweater with much visible pilling on the shoulders, the AstroTurf-green carpet in the Apple Corps recording studio).

Part One finds The Beatles and original director Lindsay-Hogg gamely trying to make a go of it while ensconced within the *way* too big main stage at Twickenham Studios, purportedly to both document new-album recording sessions and prep for a performance in front of a live audience that is ultimately, and wisely, scrapped. Part Two relocates everyone to the makeshift studio in the band's Apple Corps HQ at 3 Savile Row in London—but it's the best thing that could have happened for all involved. Here, The Beatles finally get down to enacting some seriously magical, mystical real-time songwriting and arranging, all of it made even more enchanting once pianist Billy Preston arrives to further galvanize everyone's creative juices.

When The Beatles and Preston finally get onto the fabled rooftop to perform live together in Part Three, it all falls into place. In fact, I can mark the *exact* moment everything crystallizes—it comes at 1:28:26, the *literal* instant McCartney smiles and exclaims "Yeah!" as the fab fivesome's initial crack at "Get Back" gets underway. The crinkle lines on his right cheek reveal the first truly unbridled glee Paul has shared the entire time he's been on camera. Though the gig lasts barely a half hour before the coppers shut it down, this is where the entirety of the lads' collective recording and performing DNA comes together to remind us all why The Beatles are indisputably *the* toppermost important band of the 20th century.

Disc 3 is also where the Dolby Atmos mix by Giles Martin and Sam Okell *finally* comes to full fruition, best exemplified when the camera positioned on the rooftop across the street from the performance itself swings counterclockwise, and the thrust of the music's directionality goes right along with it. When Jackson begins deploying three, four, and sometimes even *six* split-screens to showcase the concurrent action happening down on the street, up on the performance rooftop, and alongside the policemen on the move, the Atmos mix reflects the intimacy and blended individuality of the five musicians juxtaposed with how the sounds they're making together drift down to the onlookers below as well as over to anyone lucky enough to be watching on the adjacent rooftops.

If there's one disappointment herein, it's that the only included extras are four collector's cards, one of each Beatle (Lennon, McCartney, Harrison, and Starr). Considering how Jackson regularly touted the existence of a longer cut during a number of promotional interviews—interviews that certainly could have been included here, alongside a fresh director's commentary track—this is an inexcusable, epic fail. Here's hoping Disney greenlights a much more definitive, extras-laden deluxe edition in the future.

All that being said, the undeniable truth is this—The Beatles passed the audition. *Get Back* indeed gets them back to where they once, and have always, belonged. ● **MIKE METTLER**

BLU-RAY

STUDIO: Disney/Apple 2022
ASPECT RATIO: 1.85:1
AUDIO FORMAT: Dolby Atmos, Dolby TrueHD 7.1
LENGTH: 468 mins.
DIRECTORS: Peter Jackson (Get Back), Michael Lindsay-Hogg (original footage)
STARRING: John Lennon, Paul McCartney, George Harrison, Ringo Starr, Billy Preston, Yoko Ono, Michael Lindsay-Hogg, Mal Evans, Glyn Johns, George Martin

PICTURE	★★★★
SOUND	★★★★½
EXTRAS	

Disney/Apple

ETERNAL SUNSHINE OF THE SPOTLESS MIND

SCREENWRITER CHARLIE KAUFMAN has earned a reputation for subversively funny storytelling that dealt with complex issues of creativity, identity and—in *Eternal Sunshine of the Spotless Mind*—the pain of loss and the persistence of love. His words paired with the awesome visual stylings of director Michel Gondry attracted major stars from around the world, resulting in one of the most unusual and affecting romantic comedies of all time.

The narrative condenses the rocky relationship of Joel (Jim Carrey) and Clementine (Kate Winslet) in an emotional pastiche of past and present, and when things get too rough, science steps in to cure the heartbreak with a controversial technology. What if there was a way to erase unwanted memories from our brains and alleviate the accompanying sorrows along with them? And, then, what if a customer had second thoughts about the procedure…while it was happening? Kaufman won the Oscar for Best Original Screenplay (2004) for *Spotless Mind* (the title taken from the 18th Century poem "Eloisa to Abelard" by Alexander Pope), and frankly I'm still flummoxed that this offbeat jewel wasn't nominated for a bunch more statues.

For this Ultra HD debut, cinematographer Ellen Kuras has returned to personally color-grade a new 4K/HDR master. Beyond the film's many brighter elements—like Clementine's in-your-face fluorescent orange hoodie or outlandish hair-dye—the range and depth of shades is striking. Dark areas and shadows are full of detail, highlights are plenty hot, and the 2160p image accentuates different weaves of fleece, bedsheets and sweaters, while calling attention to a deliberate blurring within the 1.85:1 frame as memories begin to fade before our eyes.

Clever soundscapes heighten the bizarre events, taking us down the rabbit hole of memory like a dream orchestrated by some omniscient force, while voices filter in from above. Dialogue moves in and out with curious directionality as music shifts in unexpected ways and audio ping-pongs between the surrounds to fittingly trippy effect. This does not appear to be a new DTS-HD Master Audio 5.1 track, but it certainly does its job.

The 4K disc includes a nifty Kaufman/Gondry audio commentary, while the HD Blu-ray adds a host of archival interviews with the stars and filmmakers plus deleted/extended scenes and an in-depth scene study. New for this edition, and highly recommended, is one of the most consumer-friendly explorations of color grading I've seen, in which Kuras reveals many of the camera techniques and tricks she used to achieve her unique vision for the look of the film. ● **CHRIS CHIARELLA**

KL Studio Classics

ULTRA HD BLU-RAY

STUDIO: KL Studio Classics, 2004
ASPECT RATIO: 1.85:1
HDR FORMAT: Dolby Vision, HDR10
AUDIO FORMAT: DTS-HD Master Audio 5.1
LENGTH: 108 mins
DIRECTOR: Michel Gondry
STARRING: Jim Carrey, Kate Winslet, Kirsten Dunst, Mark Ruffalo, Elijah Wood, Tom Wilkinson

PICTURE ★★★★★
SOUND ★★★★
EXTRAS ★★★½

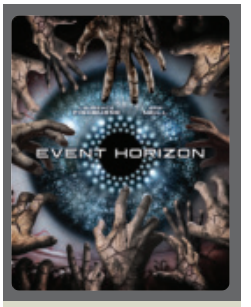
EVENT HORIZON

PAUL W.S. ANDERSON'S *Event Horizon* was neither a critical nor commercial success upon its theatrical release in 1997 but found popularity and new life, first on DVD and then on Blu-ray with multiple releases over the years. The film is now enjoying a 25th anniversary Steelbook release on 4K Ultra HD Blu-ray. Set in 2047, the story follows a crew of astronauts sent on a mission to rescue a spaceship, the Event Horizon, seven years after it goes missing while on a top-secret mission to test a gravity drive that would give it the ability to travel faster than the speed of light.

The crew includes Dr. Weir (Sam Neill), designer of the ship's gravity drive, their leader, Captain Miller (Laurence Fishburne), and features strong performances by Kathleen Quinlan as Peters, a medical technician, and Joely Richardson as officer Starck. The complex set design is impressive and the premise of a gravity drive that folds both space and time, while subjecting the crew to malevolent forces with horrifying consequences, is intriguing. It's a bold story and the film has a striking visual style, but relentless violence and gore ultimately do more to shock than provide a compelling narrative.

The picture quality is eye-catching. Lighting appears natural with dark shadows that reveal excellent gradation, from the deepest blacks to bright areas in the ship's interior, and outstanding HDR color grading allows the cool green and blue lighting that bathes many scenes to take on an organic quality, giving the possessed ship an eerie presence. Though some grain is evident from the beginning of the opening credits, it is never distracting. The presentation strikes a good balance between sharpness and a pleasing film-like appearance, allowing a good amount of detail to come through while providing smooth dimensionality to the gyroscopic movement of the gravity drive with its central sphere and concentric magnetic rings.

Audio is presented in Dolby TrueHD 5.1 and is quite dynamic, but sounds dated with directional effects that are discrete rather than smoothly integrated within a coherent soundfield. Dialogue is always intelligible but a bit flat sounding, and sound effects meant to startle are at times too loud and strident. Extras provided on the accompanying Blu-ray disc are not new and include an audio commentary with Anderson and producer Jeremy Bolt, a couple of making-of documentaries, extended and deleted scenes, storyboards from an un-filmed scene, conceptual artwork, trailers, and a digital copy code. ● **ROGER KANNO**



Paramount

ULTRA HD BLU-RAY

STUDIO: Paramount Pictures, 1997
ASPECT RATIO: 2.35:1
HDR FORMAT: Dolby Vision and HDR10
AUDIO FORMAT: Dolby TrueHD 5.1
LENGTH: 95 mins.
DIRECTOR: Paul W.S. Anderson
STARRING: Laurence Fishburne, Sam Neill, Kathleen Quinlan, Joely Richardson

PICTURE ★★★★½
SOUND ★★★
EXTRAS ★★★

CHILD'S PLAY

CHUCKY, THE possessed plaything who would go on to become one of the premiere icons of late 20th-Century horror, got his start right here in this 1988 outing. When a dying serial killer with a fondness for the occult transfers his soul into the only vessel available—the hot new talking doll on display at a toy store—little Chucky winds up going home with a single mom and is soon in the hands of a cherubic 6-year-old boy. Before long, the murderer's old ways emerge, and the bodies begin piling up. Since the police never suspect the talking doll, the wrong person soon winds up in custody, leaving the real killer free to strike again *and* take his schemes to the next level. The story moves briskly and disturbingly, as a truly evil adult takes advantage of a trusting child and puts him in harm's way. I forgot just how well the old-school special effects still work, too.

Independent label Shout! Factory is releasing the first three movies in the Chucky franchise in various configurations on the "Scream Factory" imprint, all with new 4K scans of the original camera negative, Dolby Vision HDR, remixed Dolby Atmos soundtracks, and fresh extras. In *Child's Play*, the fine details of the cinematography are laid bare in a remarkably sharp transfer beneath a substantial layer of film grain. There's a real *zazz* to the colors throughout, thanks to the unexpectedly vibrant production design, with its vivid look-at-me! toy hues. The shadowy interiors surrender a tremendous amount of picture information, whereas the nighttime exterior sequences are extremely well-lit with plenty of contrast.

As with many a memorable horror film, *Child's Play* relies heavily on the music to build tension, and Joe Renzetti's score does its job better than ever within the immersive new Atmos presentation. The subject matter lends itself to overhead audio: lightning storms, and especially a scene inside an overturned car with Chucky running around and on top of it, work like gangbusters. Traditional surround has its day as well, with scurrying off-camera footsteps and some sizable explosions.

This first installment in the ongoing franchise is proffered in a three-disc set, with the remastered feature accompanied by a trio of full-length commentaries plus a humorous select-scene track with Chucky himself (Brad Dourif, in character and proving what a cool dude he is). All of that is also included on an HD Blu-ray, along with lots of new interviews, and there's a second HD Blu-ray crammed with previously released stand-alone bonus content. ● **CHRIS CHIARELLA**

ULTRA HD BLU-RAY
STUDIO: Shout! Factory, 1988
ASPECT RATIO: 1.85:1
HDR FORMAT: Dolby Vision, HDR10
AUDIO FORMAT: Dolby Atmos with TrueHD 7.1 core
LENGTH: 87 mins.
DIRECTOR: Brian De Palma
STARRING: Catherine Hicks, Chris Sarandon, Alex Vincent, Brad Dourif, Dinah Manoff, Tommy Swerdlow

PICTURE ★★★★★
SOUND ★★★★½
EXTRAS ★★★★

Shout! Factory

EVERYTHING EVERYWHERE ALL AT ONCE

WRITER-DIRECTOR duo Dan Kwan and Daniel Scheinert, known for their work on *Awkwafina Is Nora from Queens* and *Swiss Army Man*, collaborate on this mind-bending and surreal actioner. Michelle Yeoh plays middle-aged Chinese immigrant Evelyn Wang whose family owns a coin-operated laundromat. While dealing with a multitude of problems—including an IRS audit, an ill father, marital issues, and emotional distance between herself and her daughter, Joy—Evelyn suddenly finds herself drawn into a zany and quite dangerous quest. It sends her into a multiverse where she encounters different versions of herself and her family members and discovers that she may be the only one who can save the world...and her daughter. Although well over two hours long, this unique film is thoroughly entertaining for every second of its runtime.

Everything Everywhere All at Once was shot in the anamorphic format at 2.8K and 3.4K resolutions and arrives on Ultra HD disc with a variable aspect ratio and Dolby Vision high dynamic range, which HDR metadata suggests is put to good use with a MaxLL (Maximum Content Light Level) of 1,000 nits and a MaxFALL (Maximum Frame Average Light Level) of 206 nits. The film has a colorful palette with pops of bright primaries and neon that look especially vibrant thanks to the Dolby Vision color grading, but it also goes through more restrained variations, such as the mundane hues of the family's laundromat. Overall detail is strong, but given that this is a digital production, the picture isn't as pristine as you might expect, with the filmmakers opting for a more textured appearance.

The Dolby Atmos mix conjures a strong sense of height with sounds such as voices from a TV or radio placed overhead, while music and effects emanate from the surrounds, though the motion of some effects is restrained. Dialogue is clean throughout and the bass is deep, providing appropriate *boom* for the fight sequences.

We get a number of behind-the-scenes featurettes here and the director commentary in particular is a welcome addition and well worth listening to on a second or third viewing of the film. The single best bonus is the aptly titled 40-minute-long "Almost Everything You Wanted Know About *Everything Everywhere All at Once*." An HD Blu-ray disc and digital copy code are also included. ● **BRANDON A. DUHAMEL**

ULTRA HD BLU-RAY
STUDIO: Lionsgate, 2022
ASPECT RATIO: 1.85:1/2.39:1
HDR FORMAT: Dolby Vison, HDR10
AUDIO FORMAT: Dolby Atmos with TrueHD 7.1 core
LENGTH: 139 mins.
DIRECTOR: Dan Kwan, Daniel Scheinert
STARRING: Michelle Yeoh, Stephanie Hsu, Ke Huy Quan, James Hong

PICTURE ★★★★½
SOUND ★★★★½
EXTRAS ★★★★

Lionsgate

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WHAT HI-FI?
★★★★★
KEF LS60 Wireless
05/2022

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DRIVE MY CAR

RENOWNED STAGE actor/director Yûsuke (Hidetoshi Nishijima) likes to mull over his artistic pursuits while driving. When his wife, Oto, is with him he helps her flesh out ideas for a television screenplay she's working on, and when alone he plays the tape she recorded of his co-actors' parts so he can practice his lines for a play he will be staging and acting in. They cherish being together in Yûsuke's beloved Saab, collaborating in an intimate, trusting way. Or so it seems until Yûsuke walks in on Oto making love with the handsome TV star, Kōji. Days later, Oto dies suddenly from a cerebral aneurysm. Two years pass, and Yûsuketo, still searching for answers, casts Kōji to play the lead in a production of Anton Chekhov's *Uncle Vanya* he is directing.

In this always-engrossing 3-hour film, which won an Oscar for Best International Film, director/cowriter Ryûsuke Hamaguchi creates a meditation on trauma, grief, and guilt in which characters find transcendence through reaching outside themselves into different lives — both fictional and real — and letting others drive their car.

Lighting is precise and natural, lending dimensionality and roundness to faces and trees, without fully revealing bodies during romantic scenes shot in the dim light of dusk. At Oto's funeral, the contrast is striking with black suits juxtaposed against bright white shirts and tablecloths. Other colors—mainly blue, gray, and brown pastels—are restrained but warm as they offset the rich cherry red color of Yûsuke's car.

The soundtrack is impressive and convincing in how it uses effects to create moods—the muted whoosh of a car driving through snow, a penetrating garage-door alarm that sounds just before Yûsuke discovers his wife's infidelity, rain that grows increasingly louder during the funeral, a ferry slicing through water during a downpour, and the echo of dialogue on stage followed by the enveloping roar of applause. Throughout it all, dialogue remains exceedingly clear, most notably during pivotal conversations that take place in the car or on stage, with music that frequently (and beautifully) fills the entire soundfield with all channels engaged, whether Mozart, Beethoven, Louis Armstrong, or Eiko Ishibashi's score is playing.

Extras include footage shot on the set by producer Terushisa Yamamoto, interviews with the director and cast members, the original Haruki Murakami story, and a Cannes press conference where Hamaguchi and Yamamoto answer questions about the film. In one interview, Hamaguchi explains how he was able to harness a heightened sense of reality by seeking truth through heartfelt, confessional conversations. ● **JOSEF KREBS**

BLU-RAY

STUDIO: The Criterion Collection, 2021
ASPECT RATIO: 1.85:1
AUDIO FORMAT: Japanese with English subtitles, DTS-HD Master Audio 5.1
LENGTH: 179 mins.
DIRECTOR: Ryûsuke Hamaguchi
STARRING: Hidetoshi Nishijima, Tôko Miura, Reika Kirishima, Masaki Okada, Perry Dizon, Soo-Young Park

PICTURE ★★★★
SOUND ★★★★★
EXTRAS ★★★½

Criterion

MEN IN BLACK

BEFORE COMIC-BOOK adaptations became their own industry, this action-comedy take on Lowell Cunningham's lesser-known creation about "MIB" government agents who monitor extraterrestrial activity on Earth, became a runaway hit, spawning a popular movie/TV franchise. The first in a series of four movies, the original *Men in Black* finds the newest MIB recruit, Jay (Will Smith), receiving much-needed on-the-job training when a particularly nasty alien lands with ill intent for the galaxy. Jay's winning chemistry with his world-wearier partner, Kay (Tommy Lee Jones), combined with many highly imaginative sight gags, yield plenty of laughs. At a brisk 98 minutes—the plot was cleverly streamlined after negative test audience feedback—*Men in Black* is definitely a fun re-watch.

Surprisingly, this is the first time *MIB*—one of Sony's biggest go-to titles—has been released as a 4K single. The disc arrives in a handsome Steelbook case with great cover art and enjoys an upgrade to Dolby Vision from the standard HDR10 processing used for 2017's 20th Anniversary Trilogy pack. Director Barry Sonnenfeld, an accomplished cinematographer known for bringing visual panache to his films, does an excellent job of conveying a quasi-cartoonish look and feel to the film. Though the 25-year-old special effects hold up, the newfound level 4K clarity pushes some perilously close to coming undone, while bringing the tight weave of the signature black suits into crisp focus more often than not. Contrast is a somewhat of a mixed bag. While the addition of high dynamic range (HDR) accentuates bright highlights, shadow detail is at times compromised by some pretty significant black crush.

In keeping with *MIB*'s highly caffeinated action, the reimagined Dolby Atmos soundtrack is gleefully (and appropriately) aggressive, with unabashed exploitation of the seven core channels plus frequent use of the overheads while the brave agents dodge projectiles, alien creatures, and zig-zagging spaceships. On the other hand, except for a couple of spectacular crashes, the low-end was more restrained than I would have liked—or expected. A DTS-HD Master Audio 5.1 option is also supplied in several different languages.

New to the 4K disc are two substantial on-camera interviews with Sonnenfeld, one solo and one alongside production designer Bo Welch, both apparently recorded specifically for the film's 25th anniversary. The accompanying HD Blu-ray is a previously released disc that is loaded with extras, including two terrific audio commentaries and a telestrator-aided visual commentary that dates all the way back to the DVD era. ● **CHRIS CHIARELLA**

ULTRA HD BLU-RAY

STUDIO: Sony, 1997
ASPECT RATIO: 1.85:1
HDR FORMAT: Dolby Vision, HDR10
AUDIO FORMAT: Dolby Atmos with TrueHD 7.1 core
LENGTH: 98 mins.
DIRECTOR: Barry Sonnenfeld
STARRING: Tommy Lee Jones, Will Smith, Linda Fiorentino, Vincent D'Onofrio, Rip Torn, Tony Shalhoub

PICTURE ★★★★½
SOUND ★★★★½
EXTRAS ★★★★

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PAUL MCCARTNEY

MCCARTNEY I II III — LIMITED EDITION BOX SET

3 CD/3LP

Label: MPL/Capitol/UMG

Audio Format: 16-bit/44.1kHz

Number of Tracks: 36 on 3 CDs / 3 LPs

Length: 2:02:37 on 3 CDs / 3 LPs

Producers: Paul McCartney (*I II III*); Greg Kurstin, George Martin (separate tracks on *McCartney III*)

Engineers: Paul McCartney (*I II*); Eddie Klein (mixing assistant, *McCartney II*), 4 others (*McCartney III*)

PERFORMANCES ★★★★½

SOUND ★★★★½

It was clearly inevitable all four Beatles would pursue solo careers once The Fab Four officially called it quits in 1970. Under their own individual marquee names, each Beatle produced many a high-profile album—sometimes staggering, sometimes pedestrian. The most prodigious post-Fabs output-generator over the ensuing 52-plus years has indisputably been bassist/vocalist Sir Paul McCartney, still going strong today both in the studio and onstage at age 80.

Macca's initial approach was to *truly* go solo, seeing how he played every instrument on April 1970's minimalist *McCartney*. Following a decade that found him releasing albums mainly by way of variations of the Paul McCartney and Wings banner, he returned to one-man status a decade later with May 1980's more experimental

McCartney II. Forty years on from that LP, Sir Paul completed a perfect half-century circle with December 2020's lockdown-produced *McCartney III*.

Naturally, it was also inevitable these three albums would eventually be collected together in a numeric thematic box set—and that time is now, as witnessed by the 3CD and 3LP limited-edition versions dubbed (and quite rightly so) *McCartney I II III*. Macca completists (like myself) have no qualms about obtaining both versions for our collections, of course, though I imagine most of us lean more toward spinning the 180-gram vinyl more often than we'll ever cue up the CDs. Speaking of wax, *McCartney I II III* comes in either white vinyl or black vinyl 180-gram options for the same pricetag—both list for $100—so if you're at *that* level of "completistness" (my word for it), you'll get both. That said, the surroundophile in me is actually quite interested in the *I II III* Dolby Atmos mixes done by Giles Martin and Steve Orchard and mastered by Emily Lazar that are only available digitally, not physically. (More on these Atmos mixes later.)

I can't say I'm enamored with Ed Ruscha's colorized gradient surname cover art, but to each his own. Both CD and LP sets sport detailed hype stickers, and both releases were made in Germany. The CD slipcase box, which measures 5½ x $^{15}/_{16}$ x 5⅜ inches, is quite sturdy, as is the shelving-friendly LP box. Each comes with a lightly gummed white sheet around back with all the track listings, but you'll have to slide it into the box for safekeeping since it's so loosely attached and easily torn. Personally, I'd prefer these informational listings always be directly and fully glued or printed on the backs of boxes like these, because even I don't know all this info off the top of my head.

As extras go, three individual art prints (8 x 10 in the LP set; 5½ x 5 in the CD set) boast of-era photos on one side, and Paul's one-paragraph notes about each album on the other (albeit with no other liners). Each CD and LP appears in faithful-to-the-originals gatefold form, sans bonus tracks.

And now, to the music! *McCartney* is a cozy singer/songwriter affair, and I can never get enough of the clarity in the twanging acoustic guitar, Paul's vocalized hums and clicks, and right-channel percussion of "That Would Be Something," as well as the shimmering effects and stomp-tempo of "Man We Was Lonely." *McCartney II* was more musically adventurous. The perpetually jaunty varispeeded vocals on the echo-laden "Coming Up" became a big hit, while the electro-rockabilly sneer of "Nobody Knows" foreshadowed how other veteran rockers took to similar genre-mixing in the '80s. Finally, *McCartney III* reinforced Sir Paul's eternal songwriting prowess, as evidenced by the bookending of the gnarly, hard-strummed ethereal opener "Long Tailed Winter Bird" and the stripped-down, back to the land nature of the all-acoustic closer, "Winter Bird / When Winter Comes."

As noted earlier, I'm very much interested in the digital-only *I II III* Dolby Atmos mixes. My personal favorite Atmos mix of the lot is *McCartney II*'s electropop earworm "Temporary Secretary," which I recently covered in depth in my monthly Spatial Audio File blog on SoundandVision.com. In short, the skittery, somewhat creepy programmed synth line that constantly pans around the soundstage, coupled with Macca's pince-nez vocals, make "Secretary" beyond fab in 360 degrees. Considering how many Atmos mixes have appeared on Blu-ray in six (count 'em!) separate physical box sets inclusive from The Beatles (*The White Album*, *Abbey Road*, *Let It Be*), John Lennon (*Plastic Ono Band*, *Gimme Some Truth*), and George Harrison (*All Things Must Pass*)—and they're all quite excellent, each in their own ways—frankly, it's a frustrating headscratcher as to why an Atmos-centric BD couldn't be included in a limited-edition box set like this one.

Even so, the overall merit of the musical content of the stereo mixes for the 36 songs across these three albums cannot be understated, and are nonetheless worthy of owning in their collected form. Though Sir Paul's post-Beatles recording career has seen its share of ups and downs, *McCartney I II III* captures the man, the musician, the songwriter, and the artist at his purest creative essence. ● **MIKE METTLER**

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DAVID BOWIE: THE RISE AND FALL OF ZIGGY STARDUST AND THE SPIDERS FROM MARS

Just Turn On With Me

"To be played at maximum volume." So went the listening instructions appearing in all caps near the bottom left of the back cover of David Bowie's June 1972 career-defining dystopian space-glam saga, *The Rise and Fall of Ziggy Stardust and The Spiders From Mars*. Though turning one's volume knob way past 11 might actually induce the needle to jump the groove as soon as Bowie screams "you're not alone!" in the back half of "Rock 'n' Roll Suicide," the fact is, *Ziggy Stardust* was a "loud" release in the sense of the culture-shift it helped spearhead—not to mention it being the conduit for Bowie's ascendency to true "Starman"-level stardom.

"We had never heard *anything* like it before," observes Simple Minds lead vocalist Jim Kerr of *Ziggy Stardust,* who bought the album on vinyl upon its release in 1972 when he was a young teenager growing up in Glasgow, Scotland. "The Beatles and The Stones were already considered to be your mom and dad's music by then," Kerr continues. "But with Bowie and *Ziggy*, you really felt like, 'This is *my* thing. This is my time.'"

My own original 1972 RCA Victor *Ziggy Stardust* Rockaway Pressing LP is in such dismal shape that I can't even read what's on the spine anymore. A half-speed-mastered 180-gram *Ziggy* LP made in Germany was released earlier this year on Parlophone, but if digital sourcing is an issue for you when it comes to modern wax, seek out my personal vinyl-listening favorite, the 2012 EMI LP. (Full disclosure: I bought a copy of the 2022 LP anyway, because I'm an unapologetic collector.)

As for the digital disc realm, the 1984 *Ziggy* RCA Redbook CD is what it is. The 1990 Rykodisc CD is a sentimental favorite—Rick Wakeman's harpsichord on "It Ain't Easy" is a perpetual treat—but I also enjoy the 2002 Virgin/EMI 30th anniversary 2CD set with demos and alternate takes, albeit not so much the 2012 Virgin/EMI 40th anniversary CD since it lacks bonus material.

When the time came to do a surround mix for the 2003 EMI *Ziggy* SACD, Bowie himself had a very specific, and non-negotiable, request. "He had the right idea about it, as far as I was concerned," original *Ziggy* co-producer/engineer Ken Scott told me. "As soon as 5.1 was mentioned, David said he would only allow it if the original producer and engineer did the mixes." Hence, Scott handled the surround duties himself, to great effect. A decade later, Scott suggested Ray Staff, a Trident Studios alum, do the remastering for the 40th anniversary EMI LP/DVD-V edition. "Ray had the same reference point I did," Scott explains, "because he did it in the first place—and it worked out really well."

That may be an understatement, given what you can hear of Scott's own production work in the 24-bit/96kHz DTS and Dolby Digital mixes on DVD-V. For example, "Five Years" unfolds slowly at first before the strings envelop—but don't overwhelm—the front stage, followed by Spiders guitarist Mick Ronson's lead lines deftly nestling in the rears later in the song.

Said string section, as arranged by Ronson, posed a bit of a challenge to mix for surround. "I had completely forgotten about how much leakage there was into the orchestral mikes, while having it blast through speakers," Scott recalls. "That affected things slightly, because you couldn't have the orchestra entirely in the back channels with everyone else in front, due to so much leakage. The original recording set the tone of how the 5.1 had to be."

That it did. For one thing, in surround, the synthesizers on "Suffragette City" have much better clarity and impact. (Though Bowie long-insisted those were actually horns and not synths, Scott says otherwise.) Also note how the chord changes in "Moonage Daydream" literally move around in space, and how dramatic Mick Woodmansey's wide-panned drum fills appear ahead of the choruses. The bonus instrumental version of "Daydream" sheds even more 5.1 light on the backing track.

Ziggy may have indeed played guitar, but David Bowie played to the stars. Fifty years on, the electric eye of *Ziggy Stardust* is as laser-focused as ever. Or, to put it in technical parlance, *wham bam thank you ma'am!* ● **MIKE METTLER**

▶ 1972 RCA Victor LP

▶ 2002 Virgin/EMI CD

▶ 2003 EMI SACD

▶ 2012 Virgin/EMI CD (30th anniv)

▶ 2012 Virgin/EMI DVD-V (box set)

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